SOAP AND CHEMICAL SPECIALTIES

DECEMBER 1960



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"Sprayclean", a pressure packaged spot remover, won top honors in 1960 Aerosol Package Awards Competition of the Chemical Specialties Manufacturers Assn. First foreign entry to win, it is a product of Durazone (Sales), London.

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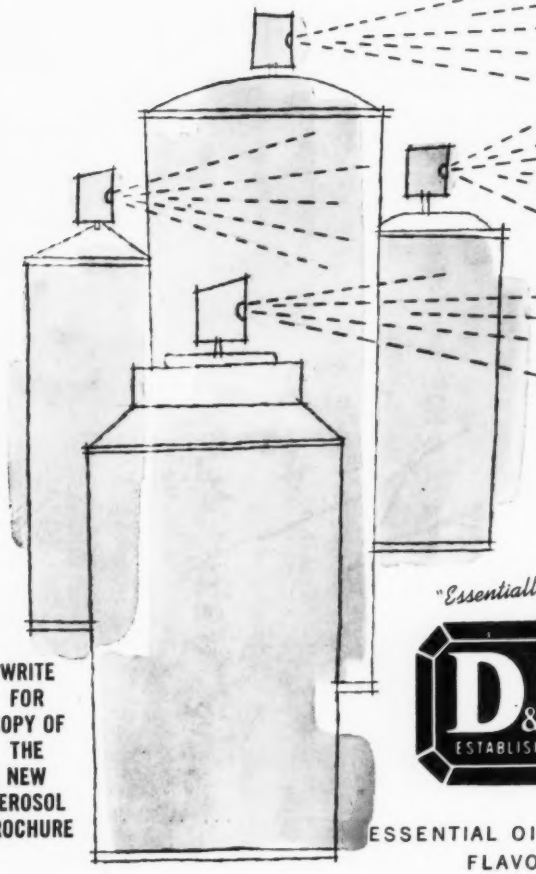
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PRODUCT		DESCRIPTION	PERCENT ACTIVE	PHYSICAL STATE	APPLICATION
QUATERNARIES	Ammonyx 4 Ammonyx 4002	Stearyl dimethylbenzyl ammonium chloride	25 100	Paste Powder	Cosmetic anti-static and conditioning agents
	Ammonyx CO	Cetyl dimethyl amine oxide	20	Liquid	Wetting, emulsifying. Acid & alkali stable
	BTC 2125	Alkyl dimethyl ethylbenzyl ammonium chlorides Alkyl dimethyl benzyl ammonium chlorides	50	Liquid	Disinfectant, deodorant, germicide, fungicide—High hard water tolerance levels — 750 ppm
	Isothan Q-75	Lauryl isoquinolinium bromide	75	Liquid	Fungicide—dandruff control
	Onyxide Series	Alkenyl dimethyl ethyl ammonium bromide	75	Paste	Algicide
	Ammonyx 781	Alkyl methylisoquinolinium chloride	50	Liquid	Biocidal agent industrial water treatment
	BTC 1100	Alkyl dimethyl naphthal ammonium chloride	100	Powder	Broad spectrum biocidal agent—hard water tolerance level 1100 ppm
NON-IONICS	Neutronyx 600 Series	Alkylphenol polyglycol ether containing from 4 to 30 moles ethylene oxide	100	Liquid	Detergent, wetting, emulsifying, dispersing
	Onyx-ol 336 & Onyx-ol 345	Lauric acid diethanolamine condensate	97	Liquid	Foam stabilizer, detergent, wetting, dispersing and thickener
	Onyx-ol 368	Lauric acid isopropanolamine condensate	97	Powder	Foam stabilizer
	Super Amide Series	High activity diethanolamine condensates	75-90 (as amide)	Liquid to solid	Foam stabilizers, emulsifiers and thickeners
SULFONATED OILS		Castor, soya, sperm, tallow	Various	Liquid	Detergent, dispersing
LAURYL SULFATES	Maprofix ES	Sodium lauryl ether sulfate	28	Liquid	Detergent, wetting, foaming and dispersing agents for industrial, cosmetic and pharmaceutical applications, pigment and latex dispersions
	Maprofix LK	Sodium lauryl sulfate	90	Powder	
	Maprofix WA Series	Sodium lauryl sulfate	30	Liquid to paste	
	Maprofix 563	Sodium lauryl sulfate	99	Powder	
	Maprofix NH	Ammonium lauryl sulfate	30	Liquid	
	Maprofix TLS Series	Triethanolamine lauryl sulfate	40-75	Liquid to paste	
ANTI-STATIC AGENTS	Aston 108 & Aston 123	Thermosetting polyamine	20	Liquid	Durable anti-static agents
	Aston AP	Cationic polyamine	50-100	Liquid	Anti-static agents, water and solvent soluble

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Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY®
CANDY'S SUPREME Special WR
SUPER CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

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Beauty and Durability

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax...beauty and protection.

Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Over-doing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

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The percentage of solid content is not nearly as important as the quality of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

Carnauba Wax

The most important features of a good wax...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

Other HIGHEST QUALITY products of CANDY & COMPANY, Inc.

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Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER
For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

Bright Beauty CREAM FURNITURE POLISH
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Bright Beauty PASTE WAX
Properly blended and refined from excellent quality solids and solvents that produce the best drying time and evaporation. Easy to handle, having "creamy" consistency and stability that lasts throughout storage and usage life.

Bright Beauty LIQUID (spirit) PREPARED WAXES
A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each acts as a "dry cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors; for bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH
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Bright Beauty DANCE FLOOR WAX
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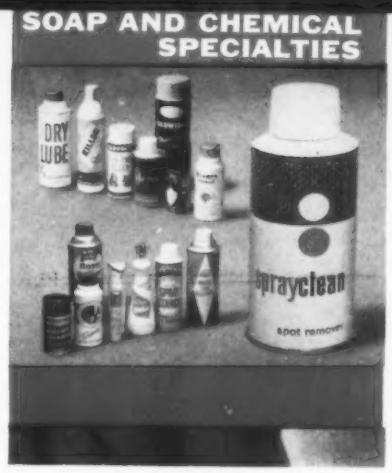
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Vol. XXXVI, No. 12, Dec., 1960

Winners of the 1960 Aerosol Package Contest, sponsored by the Chemical Specialties Manufacturers Assn. A British product, "Sprayclean," by Durazone (Sales), Ltd., London, England, walked off with top honors in the ninth annual competition. First foreign product ever to win the contest, "Sprayclean" was also judged the best in its class (Household Products), best foreign entry, and best of show. Full details on all winners appear on page 192.



MEMBER
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Published monthly by
MAC NAIR-DORLAND COMPANY, Inc.

IRA P. MAC NAIR
President

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Publication Office
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Telephone Bryant 9-4456

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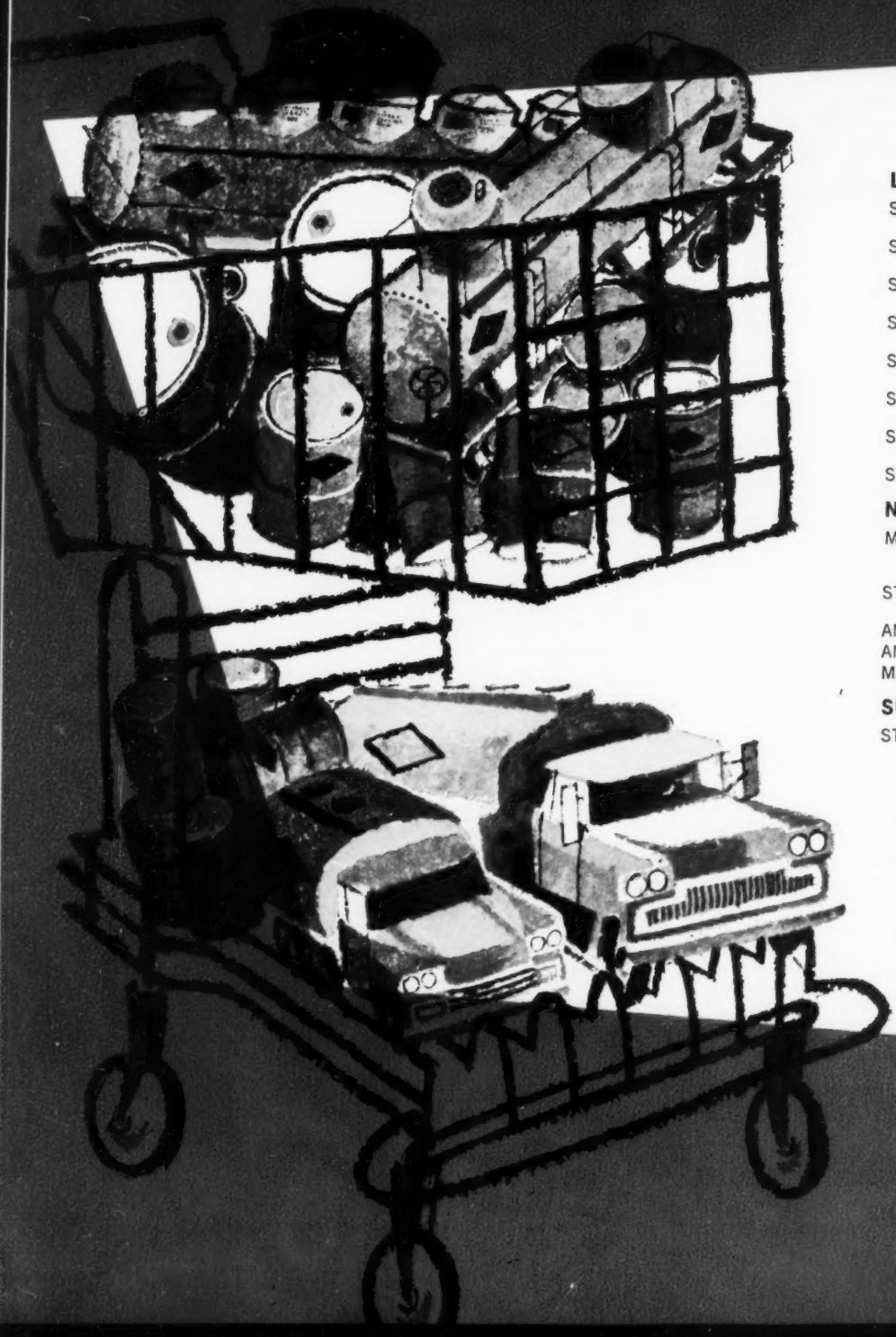
OFFICIAL PUBLICATION
CHEMICAL SPECIALTIES MANUFACTURERS ASSN.

Subscription rates: U. S., $4.00 per year; Canadian, $5.00; Foreign, $11.00 (two years only). Copy closing dates—15th of month preceding month of issue for reading matter; 10th of month preceding month of issue for display advertising.

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STEPANOL ME DRY	Powdered Sodium Lauryl Sulfate
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AMIDOX C SERIES	Ethoxylated amide
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ATE 411 . . . . . Oil Soluble Amine Alkyl Aryl Sulfonate

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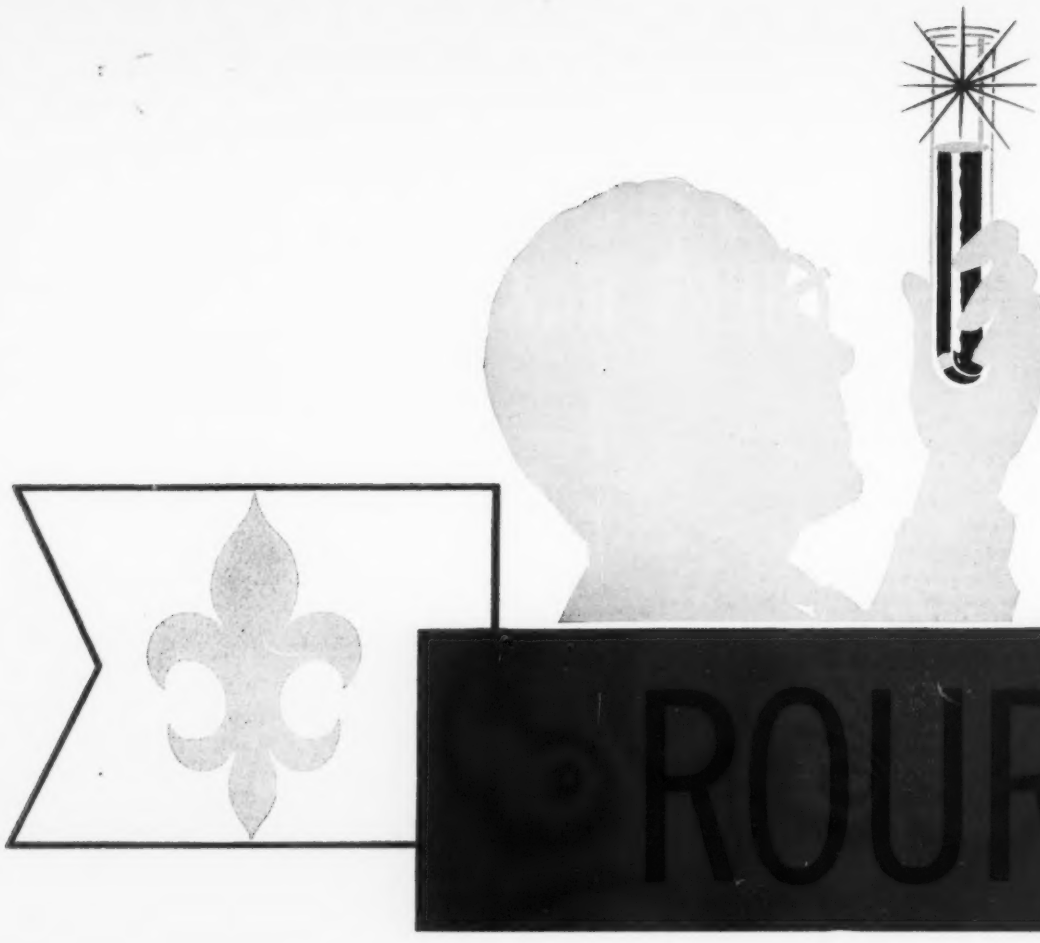
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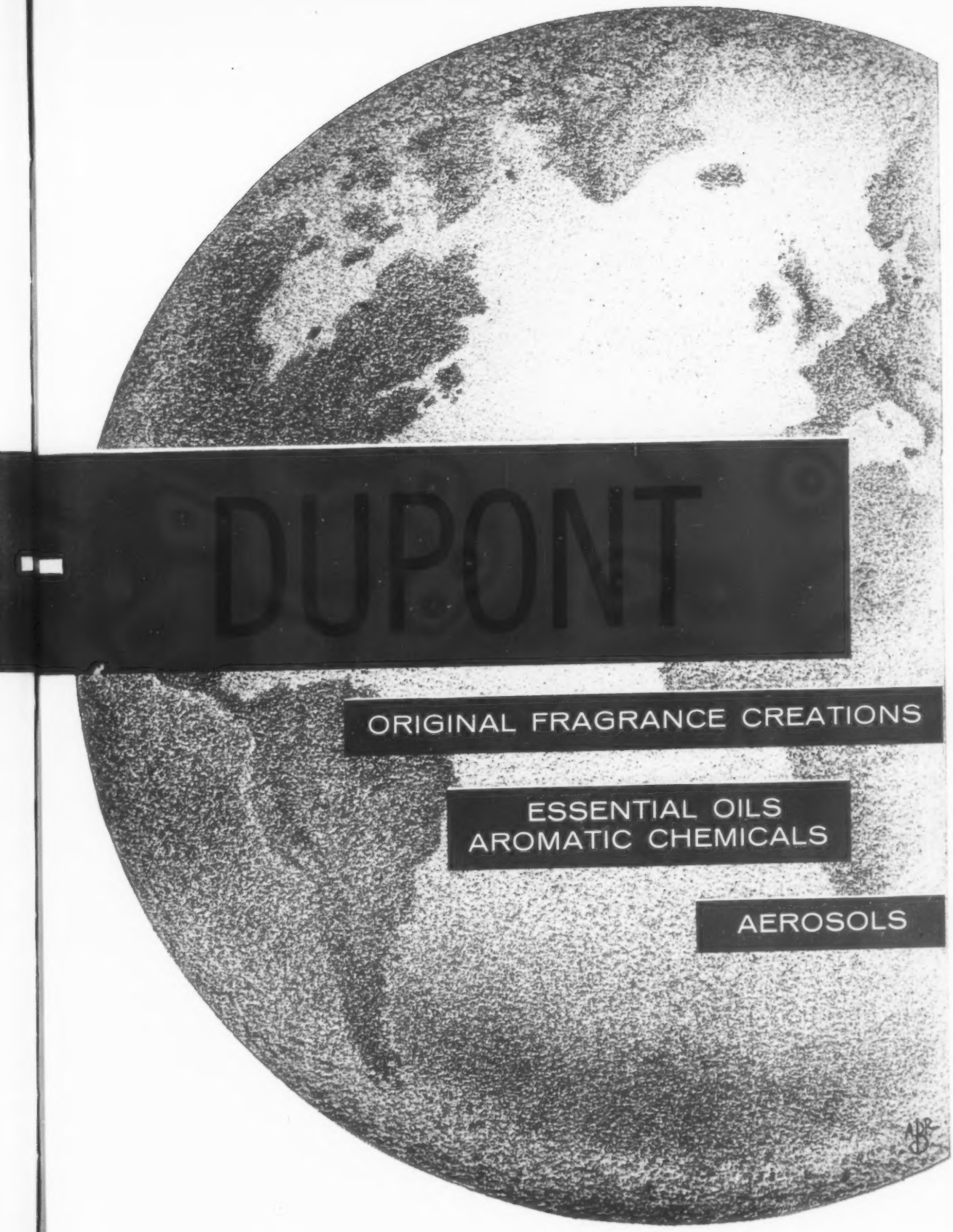
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	Ultrawet	Solids	Molecular Weight	Appearance	Active Minimum	Recommended Applications
LIQUIDS						
Clear	30DS	30%	Medium	Clear, pale yellow	27.0%	Penetrant, wetting agent, metal cleaner, emulsion polymerization.
	60L	60%	High	Clear, pale yellow	60.0%	Liquid detergents, wet textile processing shampoos, car wash, household detergent formulations, janitorial supplies.
	35KX	35%	Medium	Clear, pale yellow	31.5%	Liquid detergents and household cleaners, wet textile processing, emulsion polymerization, post stabilizer for emulsions.
Slurries	35K	35%	High	Pale yellow	31.5%	Drum-dried and spray-dried cleansing compounds, light and heavy-duty liquid detergents.
FLAKES	DS	100%	Medium	Light, cream colored	90%	Industrial detergents, emulsifier, dry mixing with alkalies, air entraining agent.
	K	100%	High	Light, cream colored	90%	Industrial detergents, heavy-duty household detergents, emulsifier, dry mixing with alkalies.
	K Dense	100%	High	Light, cream colored	90%	Same as above.
	KX	100%	Medium	Light, cream colored	90%	Same as 35KX in dry form.
	KX Dense	100%	Medium	Light, cream colored	90%	Same as KX—except smaller particle size with increased density, air entraining agent.
BEADS	SK Bead	100%	High	White, free flowing	40%	Light-duty household detergents, dry mixing with alkalies.
	SK Bead High Density	100%	High	White, free flowing	40%	Same as above—synthetic wool washes, air entraining agent.



Whether your customers are gently shampooing a baby's hair or doing heavy household cleaning—there is an Atlantic Ultrawet especially designed to build just the right detergent formulation.

Detergency, wetting ability, sudsing action, lack of odor and long shelf-life stability are of utmost importance and must be consistently and carefully controlled. That's why Atlantic Ultrawets are produced with precision control in every step of the manufacturing process. This stringent control assures you of consistently high-quality alkyl aryl sulfonates for your formulations.

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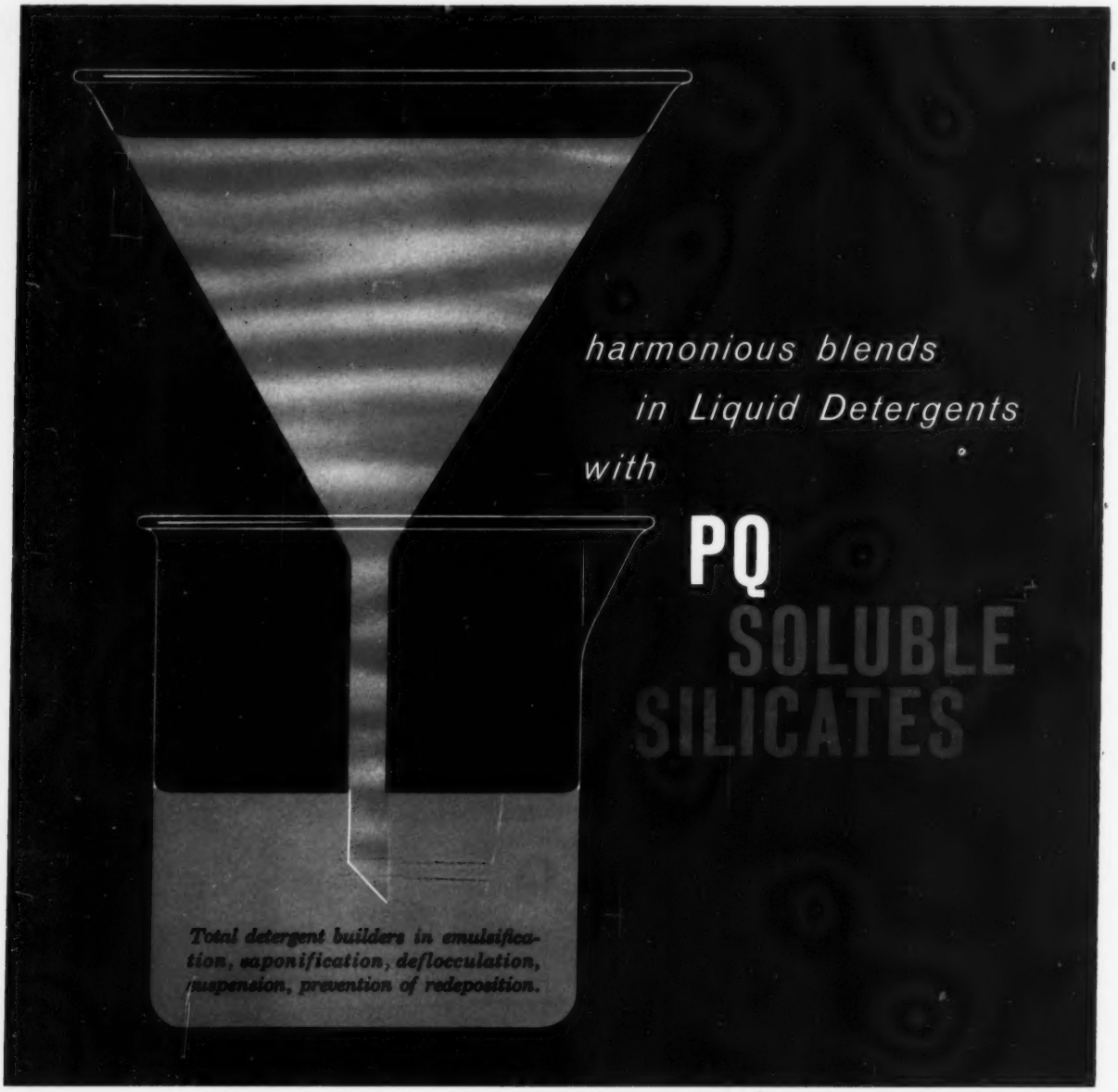
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*Benzaldehyde (Benzoic Aldehyde) is a substance recognized by the Food and Drug Administration as safe for use in foods as a synthetic flavoring. (Federal Register, August 12, 1960, Vol. 25, page 7698).

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Heyden Newport Chemical Corporation
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We welcome the opportunity to supply you with samples of sodium silicate or potassium silicate and to suggest how PQ silicates can be most effectively used in liquid detergents that you are considering.

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INTEXSAN LB 50 B	61	23	11
INTEXSAN LB 50 C	47	18	8
INTEXSAN LB 50 D	68	27	5
INTEXSAN MB 50 A	24	10	50
INTEXSAN MB 50 B	25	32	28
INTEXSAN MB 50 C	20	40	28
INTEXSAN MB 50 D	22	36	28
INTEXSAN MB 50 F	30	60	5

OTHER QUATERNARIES

INTEXSAN LCB 50/60	Alkyl dimethyl dichloro-benzyl ammonium chloride
INTEXSAN OE 60/75	Alkenyl dimethyl ethyl ammonium bromide
INTEXSAN ABM 50	Dodecylbenzyl trimethyl ammonium chloride
INTEXSAN 7212	50% solution composed of 25% alkyl dimethyl benzyl ammonium chloride, 25% alkyl dimethyl dichloro-benzyl ammonium chloride



INTEX

Chemical Corporation

MANUFACTURERS OF INDUSTRIAL CHEMICALS

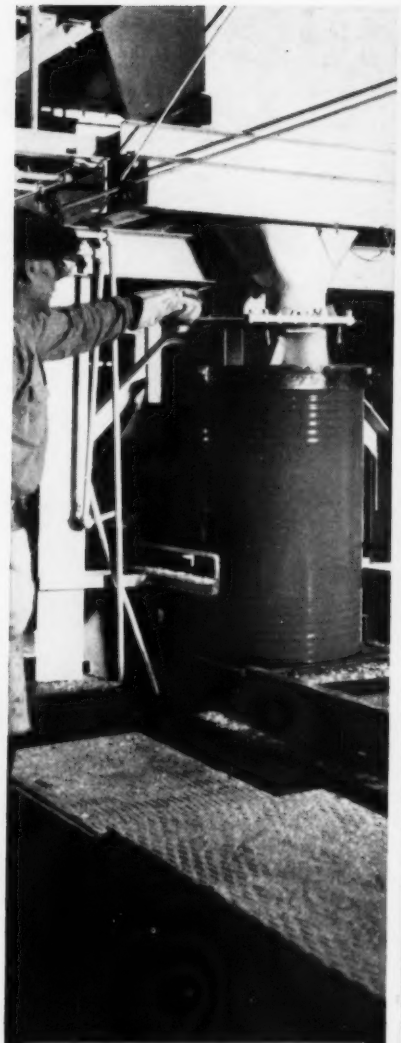
LODI, NEW JERSEY

HOW TO BUY CAUSTIC SODA EXPERTLY



Jerry W. trimmed a tidy two thousand dollars from shipping costs. When process needs for liquid caustic inched up in Jerry's plant, freight costs galloped along beside them. Jerry's Hooker man suggested a switch to barge delivery. Together, they worked out purchasing and shipping schedules—and a solid saving on freight.

All Hooker plants and most stock points are on or near deep water. If you use large amounts of 50% liquid caustic soda, and you can take water delivery, **you** might save with barge shipping.



Ralph S. repackaged the size he ordered. Ralph's company wanted to add a new product to its line of cleansers. Problem: to get a flake caustic soda that wouldn't dust off to a smaller size. When Ralph placed his next order for caustic, he discussed flake sizes with his Hooker representative. Result: he found there **was** no problem. Flake sizes are tightly controlled at Hooker. Flake is thick enough to stand up in shipping. Ralph was able to get the size he ordered, without waste.



A purchasing agent helped design his plant's caustic soda handling system. When Elmer K.'s plant was modernized, its caustic handling system became hopelessly outdated. Elmer tipped off the plant superintendent about the design assistance available from Hooker. They called their Hooker man who put them in touch with a Hooker engineer. As a result, the whole system was revamped along more efficient lines—with engineering help from Hooker that cost Elmer's company nothing.

DID YOU KNOW THERE ARE 11 WAYS TO BUY HOOKER CAUSTIC SODA?

Liquid 50% • Rayon Grade Liquid 50% • Liquid 73% • Rayon Grade Liquid 73% • Solid • Regular flake • Crystal flake • Fine flake • Powder • Phosphated • Special alkali.

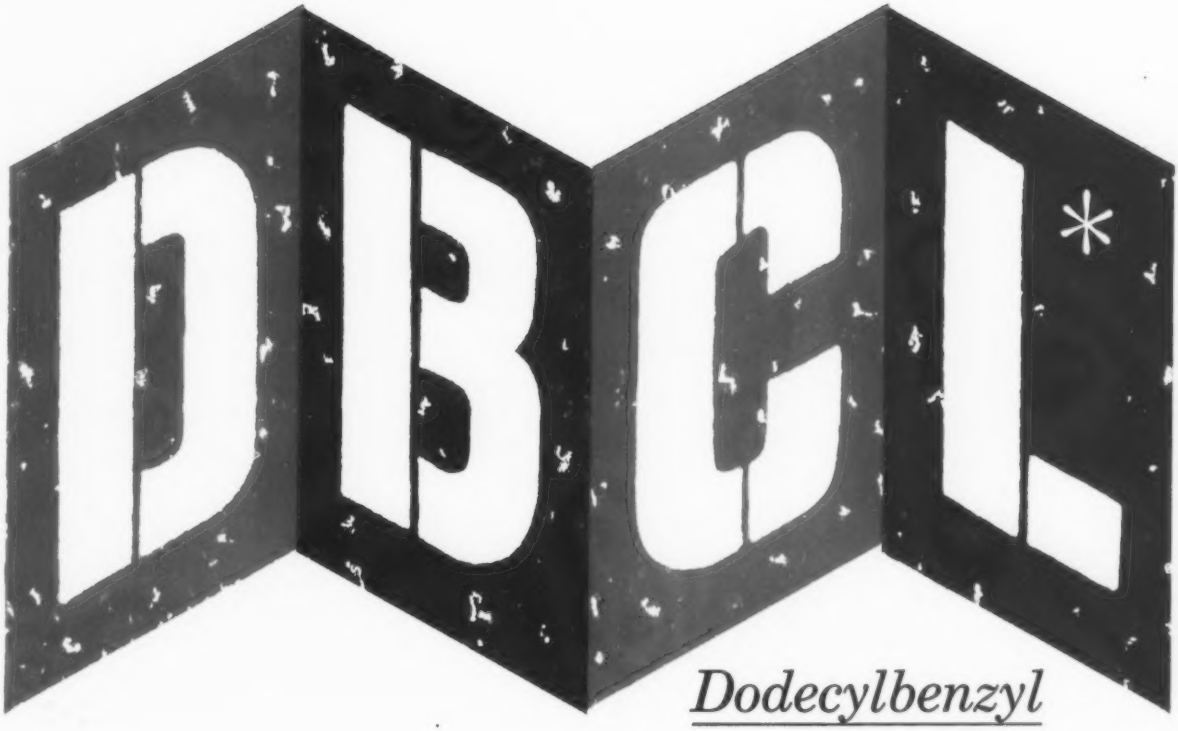
Somewhere among these varieties is a new source of profit for you. Your Hooker man can help you find it. Why not get in touch with him.

HOOKER CHEMICAL CORPORATION
112 Union Sreet, Niagara Falls, N. Y.

HOOKER CHEMICALS PLASTICS

Sales Offices: Buffalo Chicago Detroit Los Angeles New York Niagara Falls Philadelphia Tacoma Worcester, Mass. *In Canada:* Hooker Chemicals Limited, North Vancouver, B. C.

CONOCO



Dodecylbenzyl chloride
technical grade
. . . the intermediate for cationic surface active agents

***TYPICAL PHYSICAL PROPERTIES**

Specific Gravity at 60°F	0.965
Apparent Molecular Weight	292
Activity	Approx. 95%
Minimum Activity	90%
Flash Point (C.O.C.)	355°F.
Viscosity S.U.S. at 100°F	105
Pour Point	Less than −5°C.

CONOCO

For chemicals with a head start on the future . . . count on CONOCO!

CONOCO DBCL reacts with tertiary amines to form cationic surface-active agents—known chemically as "quaternary ammonium salts." Quaternaries are used as the active ingredients in sanitizer preparations, as textile softeners, and as antistatic agents for fibers, plastics, and paper. Nonionic surface-active agents may also be made by reacting CONOCO DBCL with the appropriate polyglycol.

For samples and further information, just send a request on your letterhead.

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ALKANE is the world's leading synthetic detergent raw material

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ALKANE







* Oronite's trademark for its detergent intermediate.

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AFTER CLOSING---

New Lehn & Fink Pres.

Walter N. Plaut has been elected president and chief executive officer of Lehn & Fink Prod-



Walter N. Plaut

ucts Corp., New York, it was recently announced. He represents the third generation of the Plaut family to hold this office, and succeeds his father, Dr. Edward Plaut, who continues as director.

Mr. Plaut formerly had been administrative vice president and a director of the 86 year old cosmetic, proprietary drug, and sanitation chemical firm.

A graduate of Wesleyan University, where he majored in chemistry, he had been a member of the purchasing staff of the household appliance division of Westinghouse Electric & Manufacturing Corp., prior to joining Lehn & Fink in 1946.

—★—

WARF Forms Pesticide Unit

Wisconsin Alumni Research Foundation, Madison, Wis., announced recently formation of a pesticide department. This will include the former insecticide testing laboratory and expanded facilities for testing and screening of compounds for activity as herbicides, fungicides, bactericides and other products.

A 10,000 square foot building has been remodeled and will house the entire department. Among the increased services made possible by this move is a 1000 cubic foot Peet-Grady chamber for more accurate measurement of household aerosol fly sprays.

Acting head of the department is G. E. Schmolesky, assisted by C. D. Kuzdas.

—★—

Purex Declares Dividend

The board of directors of Purex Corp., Ltd., South Gate, Calif., at its November meeting, declared a regular quarterly cash dividend of 20¢ per share, it was announced recently by A. C. Pelletier, chairman. The dividend is payable Dec. 31, to stock of record Dec. 15.

—★—

Gerson Ups Vermillion

Joseph V. Vermillion has been promoted to vice-president—manufacturing of Gerson Stewart Corp., Cleveland, O., it was announced recently by L. R. Schilling, president.

Mr. Vermillion joined the firm in March as director of manufacturing, and was previously senior staff industrial engineer with Harris Intertype Corp. He is head of all phases of manufacturing for Gerson Stewart, chemical sanitation and housekeeping products manufacturer since 1914.

—★—

August Kochs Dies

August Kochs, 89, founder of Victor Chemical Works, Chicago, and vice-chairman of the board, Stauffer Chemical Co., New York, died Nov. 22.

A native of Germany, Mr. Kochs founded Victor in 1902, with a plant in Chicago Heights, Ill., which made phosphate for the baking industry.

A division of Stauffer Chemical Co. since Oct. 1959, Victor today operates nine plants and serves more than 40 different industries.

Mr. Kochs is survived by a son, Herbert W. Kochs, chairman of the board of Diversey Corp., Chicago; by a daughter, Mrs. Elsa Cannon of Honolulu, Hawaii, 13 grandchildren and 10 great-grandchildren. He was preceded in death by his wife, Adelaide, and by his



August Kochs

son, Walter A. Kochs, founder of Diversey.

—★—

C-P Appoints Sager

The appointment of Raymond Sager to the newly-created position of manager of marketing planning for Colgate-Palmolive (New York) Company's associated products division, was announced recently by Edward P. Field, Jr., vice-president and general manager of the division.

Mr. Sager, formerly regional manager of the south central associated products region, will supervise the development of new products from the preliminary stages of research through test marketing to full-scale distribution.

Mr. Sager started with the company in 1943 as a member of the home office staff, and joined the associated products sales force in 1948. He was appointed a supervisor in the eastern region in 1954, and three years later, became south central regional manager with headquarters in Kansas City.

Paul W. Clifford was named to succeed Mr. Sager as regional

manager. Formerly supervisor of the south central associated products region, Mr. Clifford takes full charge of C-P's associated products salesmen in a 15-state area.

Mr. Field also announced the promotion of William C. Montgomery to the post of supervisor, replacing Mr. Clifford.

—★—

Wrisley Revamps Ad Dept.

Allen B. Wrisley Co., Chicago manufacturer of soaps and toiletries for over 98 years, and a subsidiary of Purex Corp., Ltd., South Gate, Calif., plans to spend in excess of $500,000 for advertising during 1961.

Wrisley is currently running ads in seven consumer magazines and is participating in Purex TV daytime specials and "From These Roots" and will continue this campaign through the balance of 1960.

Robert N. Harris, vice-president and director of marketing, announced an agency change: John W. Shaw, Chicago, has been named Wrisley's advertising agency.

—★—

Morgens to Receive Award

Howard Morgens, president of Procter & Gamble Co., Cincinnati, will receive the annual award of the Advertising and Allied Industries at a dinner meeting at the Waldorf-Astoria Hotel, Nov. 30, sponsored by the Joint Defense Appeal of the American Jewish Committee and the Anti-Defamation League of B'nai B'rith. The award is made "for distinguished service on behalf of human rights."

Howard J. Morgens



Soap Industry Convention Preview

PANEL discussions on technological and merchandising subjects form highlights and substance of the program set for the 37th annual convention of the Association of American Soap & Glycerine Producers at the Waldorf-Astoria Hotel, New York, Jan. 25, 26, and 27. Panel sessions, a successful innovation last year, will be a little more formal in that a certain number of speakers are set; but group discussions will again be encouraged.

Wednesday, Jan. 25 will be devoted to meetings of the Fatty Acid Producers' Council and of the Industrial Division. Both divisions will hold their business meetings in the morning. A combined luncheon session will hear a talk on the "Educational Challenge" by Dr. Mason W. Gross, president of Rutgers University, New Brunswick, N. J.

In the afternoon of Wednesday, Jan. 25, concurrent panel sessions will be held by both divisions. The Fatty Acid Producers' Council has scheduled a session entitled "Food Additives, Emulsifiers, Alkyd Resins, and Containers" which will hear Thomas E. Dowling of American Cyanamid Co. on containers; K. A. Earhart, consulting engineer, Louisville, Ky., on alkyds; and Charles H. Lighthipe of Nopco Chemical Co. on emulsifiers. At the same time the Industrial Division will have a panel discussion on "Marketing Industrial Products," John D. Moore, U. S. Borax & Chemical Corp., moderator. Panelists will deal with sales organization, sales planning, sales promotion.

Wednesday evening at 5:30 P.M. there will be a reception and cocktail party, at which *Soap and Chemical Specialties* will be host.

"New Trends in Detergent Technology" is the title of one of three simultaneous panel sessions scheduled for Thursday morning, Jan. 26. S. D. Gershon, development manager, household products division of Lever Brothers Co. will be moderator. Panelists and their subjects will include: R. D. Stayner, Oronite Chemical Co.—"Anionics;" J. R. Van Wazer, Monsanto Chemical Co. — "Phosphates;" L. D. Berger, Jr., Union Carbide Chemicals Co. — "Nonionics;" Donald L. Anderson, General Mills, Inc. — "Ampholytes;" and a speaker yet to be announced on "Lime Soap Dispersants."

Second of the simultaneous panels, will discuss "Marketing of Household Products" with Phil Kelly, president, New York Sales Executives Club, as moderator. "The Homemakers' Viewpoint" will be presented by Charlotte Montgomery, columnist for *Good Housekeeping Magazine;* "The Manufacturers' Viewpoint" by a speaker yet to be announced. "The Chain Store Viewpoint" by a speaker yet to be announced; "The University Marketing Viewpoint" by Dr. Ralph Alexander, Graduate School of Marketing, Columbia University; and "Packaging Trends" by R. C. Nicholson, *Sales Management* magazine.

"Building 'Home-Town' Favor for Your Company" is the title of Thursday morning's third concurrent panel. John O'Connell of Hill & Knowlton, Inc., New York, will be moderator, panelists are to be announced.

A business meeting of the Glycerine Producers Association is also scheduled for Thursday morning, Jan. 26. It will be followed by a group luncheon at which the Glycerine Research Awards will be presented. Featured luncheon speaker is Pauline Frederick, NBC News' United Nations correspondent, her subject is "Living with the U. N."

A panel session will be held by the Glycerine Producers' Association in the afternoon of Thursday, Jan. 26. This will be followed by the annual "Maid of Cotton" fashion show.

At Friday's luncheon Edgar

Cartwright, National Aeronautics and Space Administration, will speak on the "Challenge of Space."

After luncheon on Friday, Jan. 27 there will be the members' annual meeting and presentation of association reports. The association members reception is set for 6:30 P. M., the annual banquet and entertainment for 7:30 P. M.

—★—

Dr. Vanyur Joins Empire

Dr. Margit Vanyur has been appointed to the laboratory staff of Old Empire Inc., Newark, N. J., it was announced recently by John De Elorza, president. She is in charge of quality control of the pharmaceutical department.

Dr. Vanyur received her Doctor of Pharmaceutical Science degree from the University of Szeged, Hungary. She has worked in several pharmaceutical laboratories in the production of prescriptions, and as an analytical chemist in quality control, and also as a bio-chemist.

In 1948 she joined the laboratory service, 98th General Hospital, European Command, U. S. Army as an analytical chemist in the biochemistry section.

After leaving the Army, she came to the United States in 1951 and worked as an analytical chemist at Beth Israel Hospital, Newark, N. J. In 1952 she joined the Vitamin Corp. of America, assaying vitamins. In 1955, Dr. Vanyur joined Standard Drug Inc., as an analytical chemist in charge of quality control, pharmaceuticals.

Dr. Margit Vanyur



New Process-Magnus Unite

New Process Chemical Co., San Francisco, Calif., and Magnus Chemical Co., Garwood, N. J., have merged, according to a recent announcement issued jointly by John F. Allen, president and general manager of New Process, and W. Monty Campbell, president of Magnus.



John F. Allen



W. Monty Campbell

Corporate structure and identities of both firms will remain intact, according to the announcement. Extended range of products, broadened research and development activity, and expanded sales and dealer organization will result from the new arrangement.

Magnus, established in 1920, produces industrial cleaning products and equipment. New Process, in business since 1936, has concentrated on cleaning materials for the marine industry.

Under the new arangement, New Process will provide manufacturing facilities for Magnus on the Pacific coast; Magnus will manufacture for New Process in the east.

Dragoco Moves Offices

Dragoco, Inc., New York, announced recently, the relocation of its general sales and international division offices and laboratories. Dragoco's new address is: King Road, Totowa, N. J., telephone Clifford 6-3850.

—★—

Gerstacker Dow Chairman

Earl W. Bennett, chairman of the board, Dow Chemical Co., Midland, Mich., has resigned, and Carl A. Gerstacker, vice-president and chairman of the finance committee, has been named to succeed him. Dr. Bennett will continue to function on the board and the finance committee, according to Leland I. Doan, Dow president. Earlier this year, Dr. Bennett celebrated his 80th birthday and his 60th year with Dow.

Dr. Gerstacker joined Dow in 1938. He was elected chairman of the finance committee in 1959, succeeding Dr. Bennett. In addition to his duties as chairman of the board, Mr. Gerstacker will continue as finance chairman.

In another major change, Herbert D. Doan, manager of the chemicals department, has been named executive vice president of Dow. He succeeds Dr. Mark E. Putnam, who died Nov. 6.

—★—

SOCMA Annual Meeting

The annual meeting of the Synthetic Organic Chemical Manufacturers Association of the United States will be held Thursday, Dec. 8, Hotel Roosevelt, New York City.

The business program will begin at approximately 1:15 p.m.; a principal item on the agenda will be the election of officers and two members of the board of governors.

Glidden Appoints Young

Robert P. T. Young has been appointed manager of the organic chemical department, chemicals division, Glidden Co., Cleveland, it was announced recently by G. M. Halsey, vice-president in charge of the division.

Mr. Glidden was formerly associated, for 19 years, with Procter & Gamble Co., Cincinnati.

His headquarters will be at Jacksonville, Fla., and he will report to George S. Warner, vice-president-operations, of Glidden's chemicals division.

—★—

New Grade of Shellac

"Pale-Pale Refined Bonedry" is the latest grade of shellac just introduced by Acme Shellac Products Co., 108 Blanchard Street, Newark, N.J. Said to form extremely pale aqueous or alcohol solutions, the material may be dissolved at room temperature with borax, ammonia and organic amines. It is suggested for the production of light colored polymers with styrene.

Claimed to exhibit good leveling and wearing qualities associated with refined shellac, the new grade is available in commercial quantities and at an unchanged price.

—★—

CDCA Plans Annual Stag

The Chicago Drug and Chemical Association will hold its annual Christmas stag party at the Palmer House, Chicago, on Thursday, Dec. 22, starting at six in the evening.

—★—

Givaudan Fall Reception

The annual fall reception and cocktail party by Givaudan-Delawanna, Inc., was held Thursday Nov. 10, New York. More than 300 members of the soap, perfume, cosmetic, and allied industries attended.

Guests of honor were Andre Givaudan and his son Xavier, who are visiting the United States. Both visitors met with members of the industry and discussed current problems encountered both here and abroad.

—★—

English Researcher at P-G

Dr. Peter Brocklehurst, a member of the basic research department of Thomas Hedley & Co., Ltd., Newcastle, England, the British affiliate of Procter & Gamble Co., Cincinnati, is spending six months with P&G's research division.

Pictured at the annual reception of Givaudan-Delawanna, Inc., New York, last month were, top photo, left to right: Jerome A. Straka, Chesebrough-Ponds, Inc., New York; Andre Givaudan, head of the Givaudan organization; Ernest R. Durrer, president, Givaudan-Delawanna, Inc., New York; Dr. Peter Isaza, Chesebrough-Ponds International; Xavier Givaudan, and Andrew A. Lynn, Prince Matchabelli, Inc., New York.

Center photo is overall shot of affair, held at the University Club, New York.

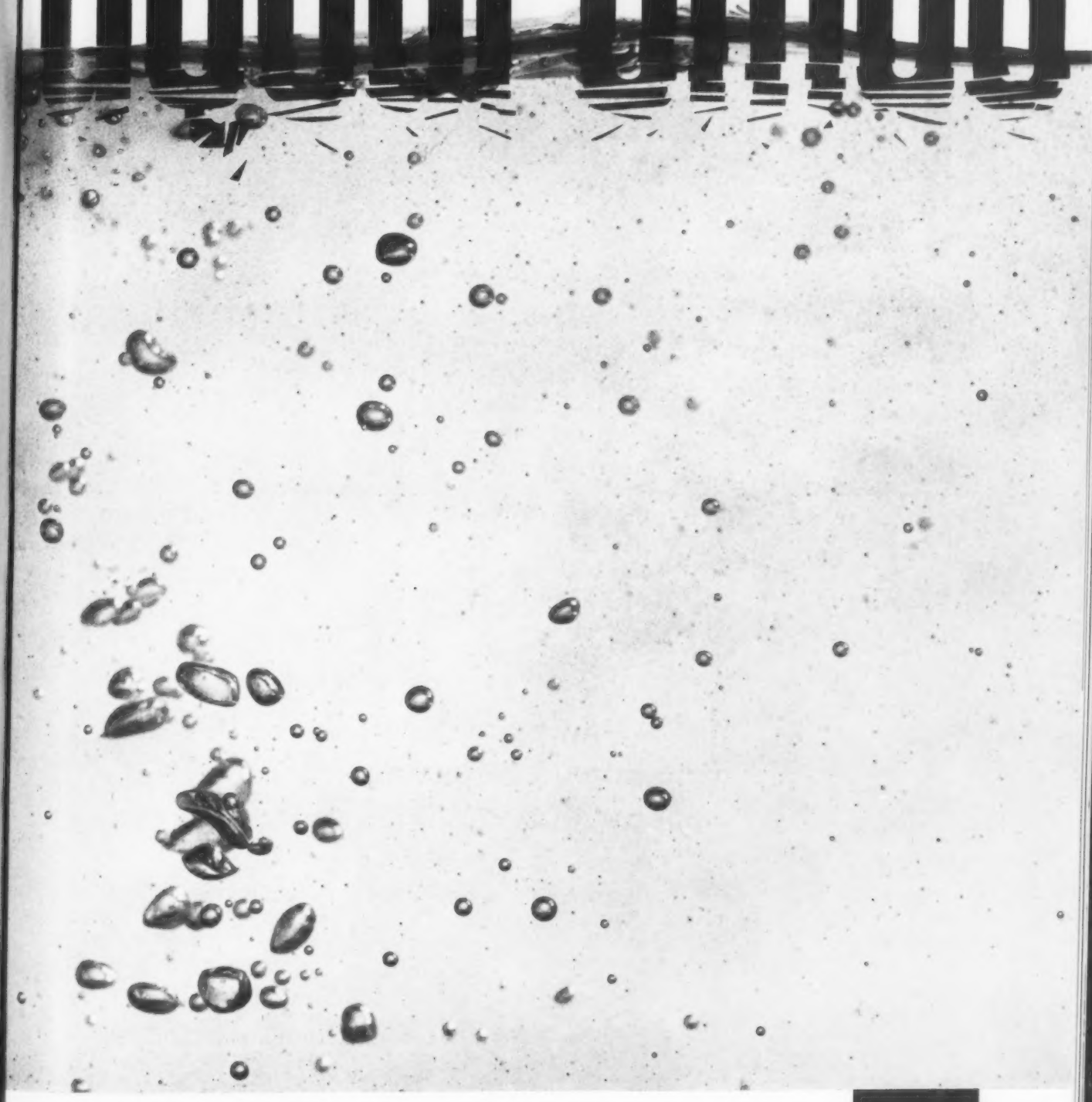
Bottom, l. to r.: Xavier Givaudan; F. N. Bangs, vice-president, Givaudan-Delawanna, Inc., New York; G. B. Livesay, Colgate-Palmolive Co., New York; E. R. Durrer, president of Givaudan-Delawanna; Gregory Thomas, Chanel, Inc., New York, and Frazer Sinclair, publisher of Drug & Cosmetic Industry magazine, New York, and Andre Givaudan.







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SALT CAKE

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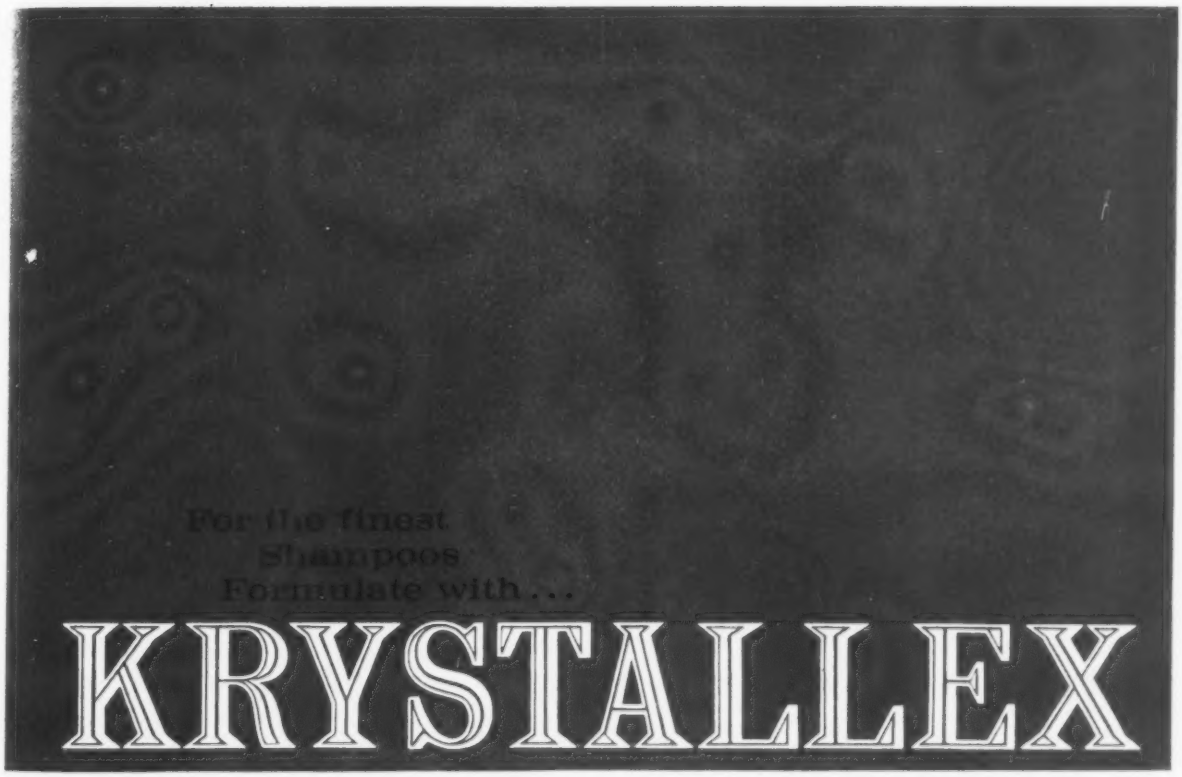


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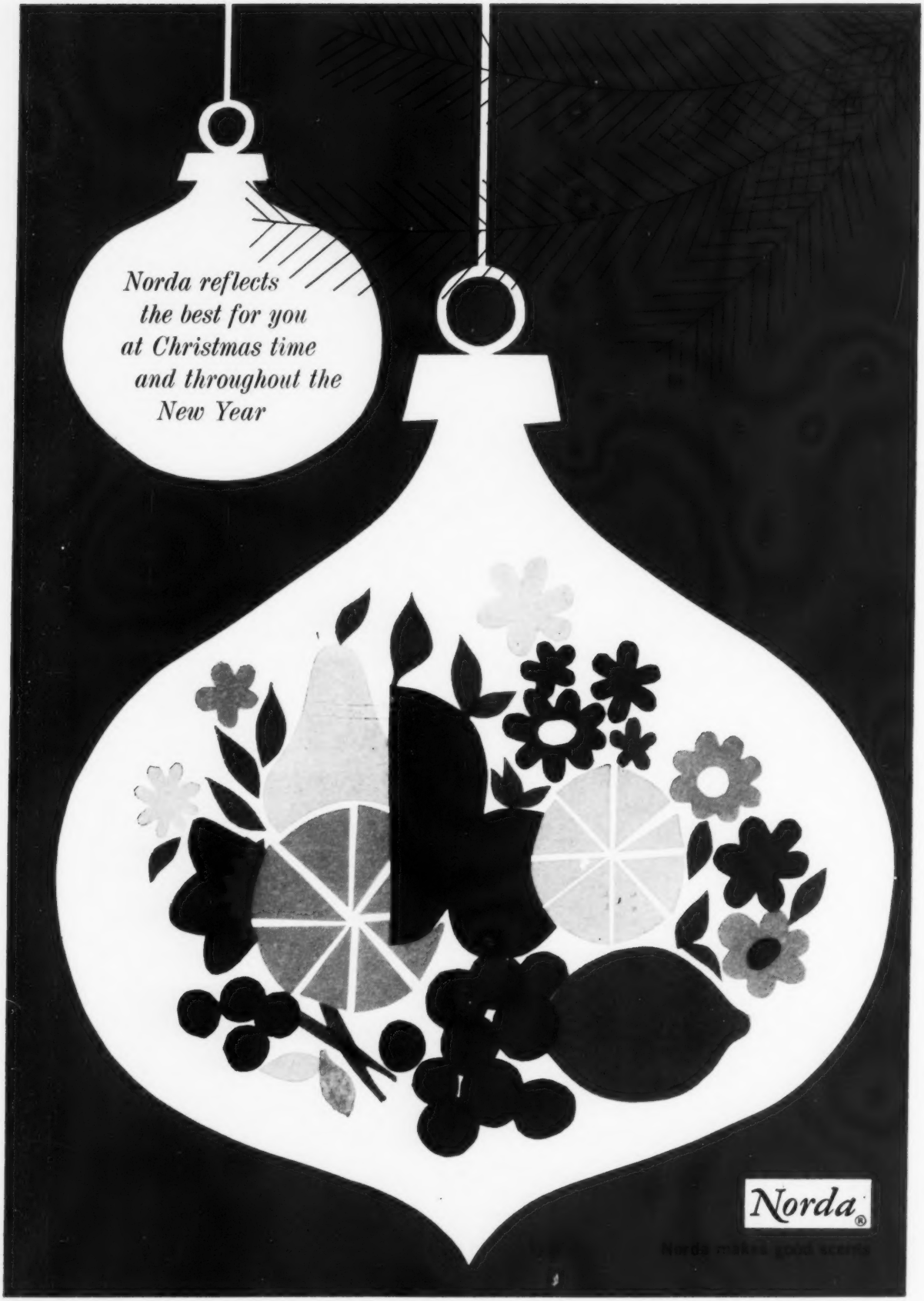
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61 Broadway, New York 6, N. Y.

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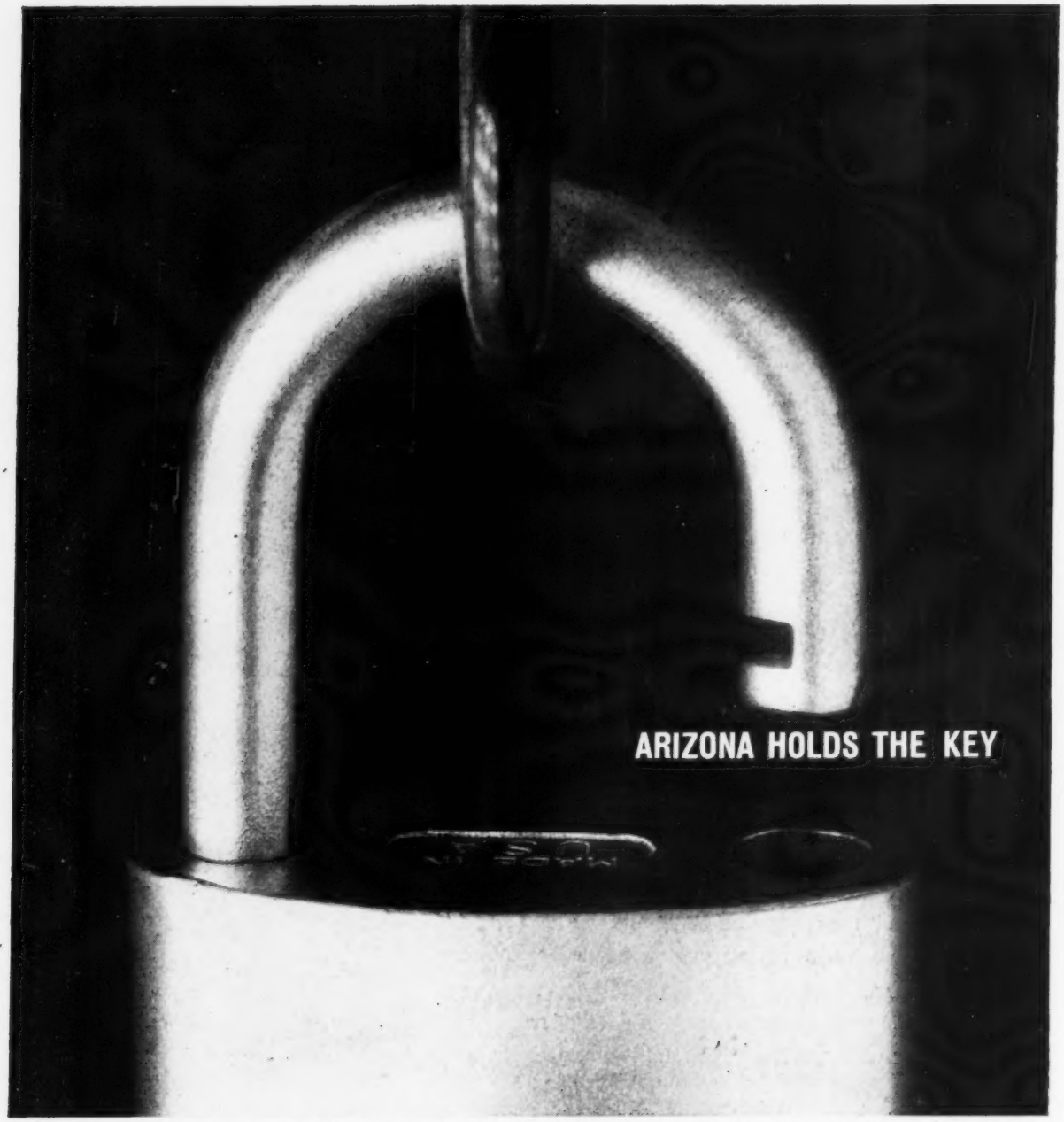
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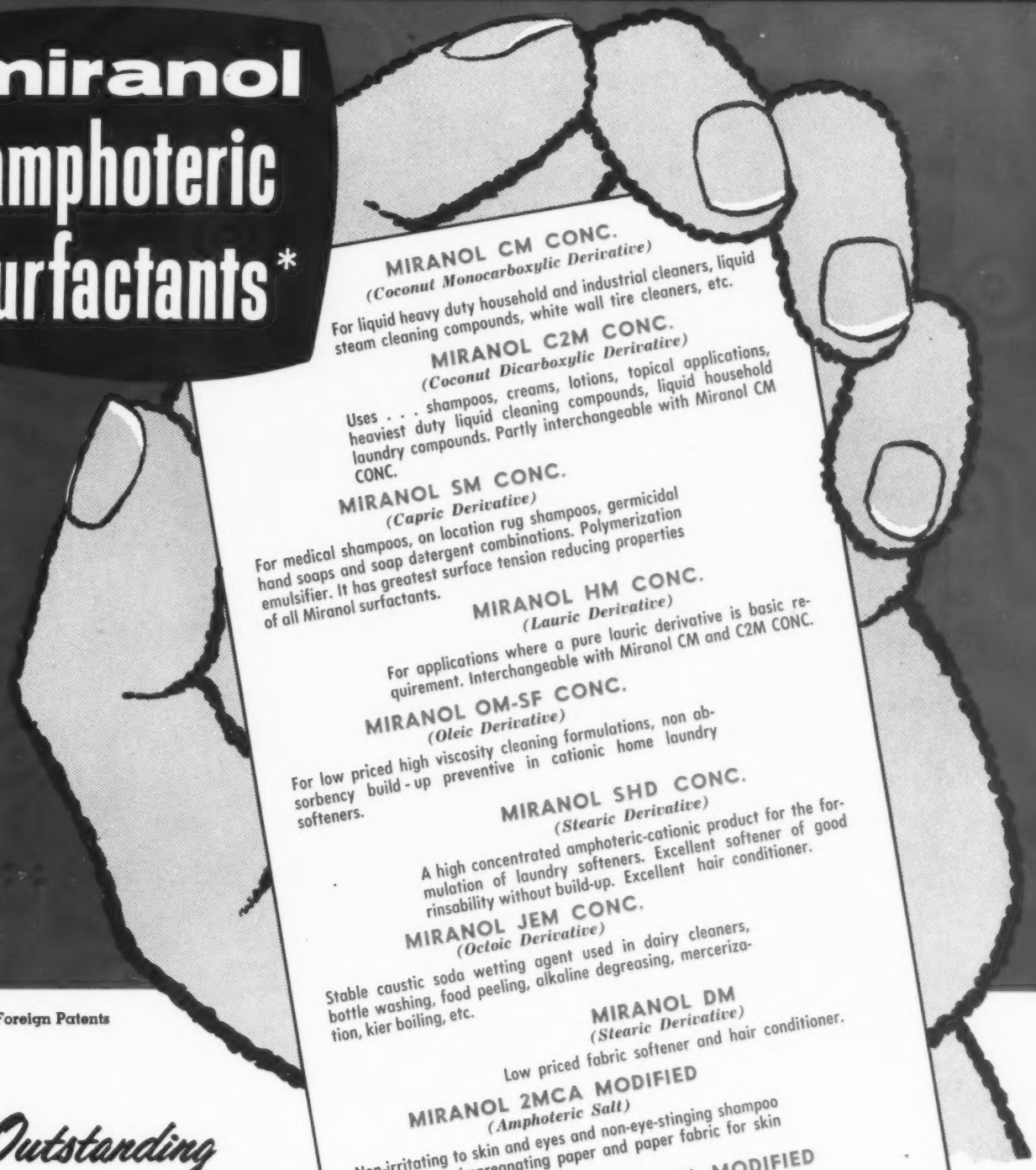
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For liquid heavy duty household and industrial cleaners, liquid steam cleaning compounds, white wall tire cleaners, etc.

MIRANOL C2M CONC.
(Coconut Dicarboxylic Derivative)
Uses . . . shampoos, creams, lotions, topical applications, heaviest duty liquid cleaning compounds, liquid household laundry compounds. Partly interchangeable with Miranol CM CONC.

MIRANOL SM CONC.
(Capric Derivative)
For medical shampoos, on location rug shampoos, germicidal hand soaps and soap detergent combinations. Polymerization emulsifier. It has greatest surface tension reducing properties of all Miranol surfactants.

MIRANOL HM CONC.
(Lauric Derivative)
For applications where a pure lauric derivative is basic requirement. Interchangeable with Miranol CM and C2M CONC.

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(Oleic Derivative)
For low priced high viscosity cleaning formulations, non absorbency build-up preventive in cationic home laundry softeners.

MIRANOL SHD CONC.
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A high concentrated amphoteric-cationic product for the formulation of laundry softeners. Excellent softener of good rinsability without build-up. Excellent hair conditioner.

MIRANOL JEM CONC.
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Stable caustic soda wetting agent used in dairy cleaners, bottle washing, food peeling, alkaline degreasing, mercerization, kier boiling, etc.

MIRANOL DM
(Stearic Derivative)
Low priced fabric softener and hair conditioner.

MIRANOL 2MCA MODIFIED
(Amphoteric Salt)
Non-irritating to skin and eyes and non-eye-stinging shampoo base, also for impregnating paper and paper fabric for skin and body wash, etc.

MIRANOL MSA MODIFIED
(Amphoteric Salt)
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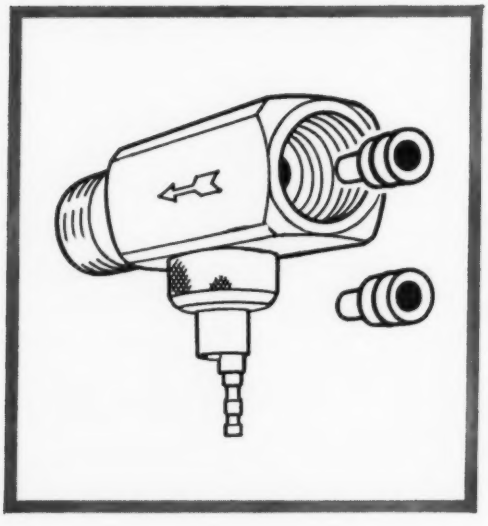
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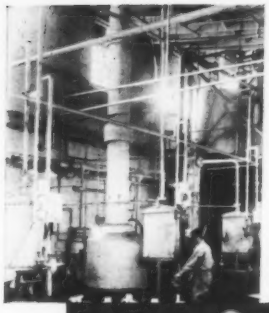
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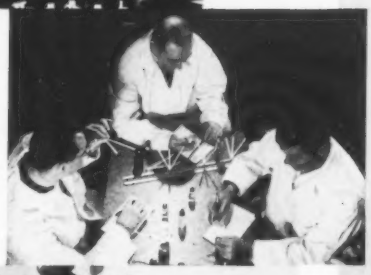
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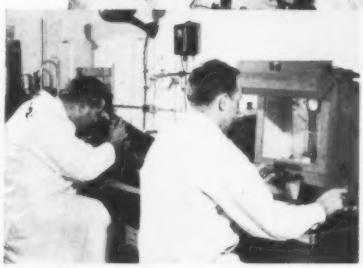
PRODUCT	USE ASPECTS	APPLICATIONS
DODECYL BENZENE SULFONIC ACID (Surco DDBSA)	Ammonia or diethanolamine neutralization. Dry Soda Ash-Sodium Tripolyphosphate neutralization	Kerosene degreaser and cleaner • Floor cleaner-coupling agent. Low cost car shampoos. Pourable gel concentrate
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DESALTED SODIUM ALKYL ARYL SULFONATE (Surco SF42M)	Contains minimum salt in ethyl alcohol solution	Glass rinses • Liquid dish detergents • General synthetic cleaner • Oven, exhaust fan, deep fry cleaner • Clarifying agent for ammonium alkyl aryl sulfonate solutions
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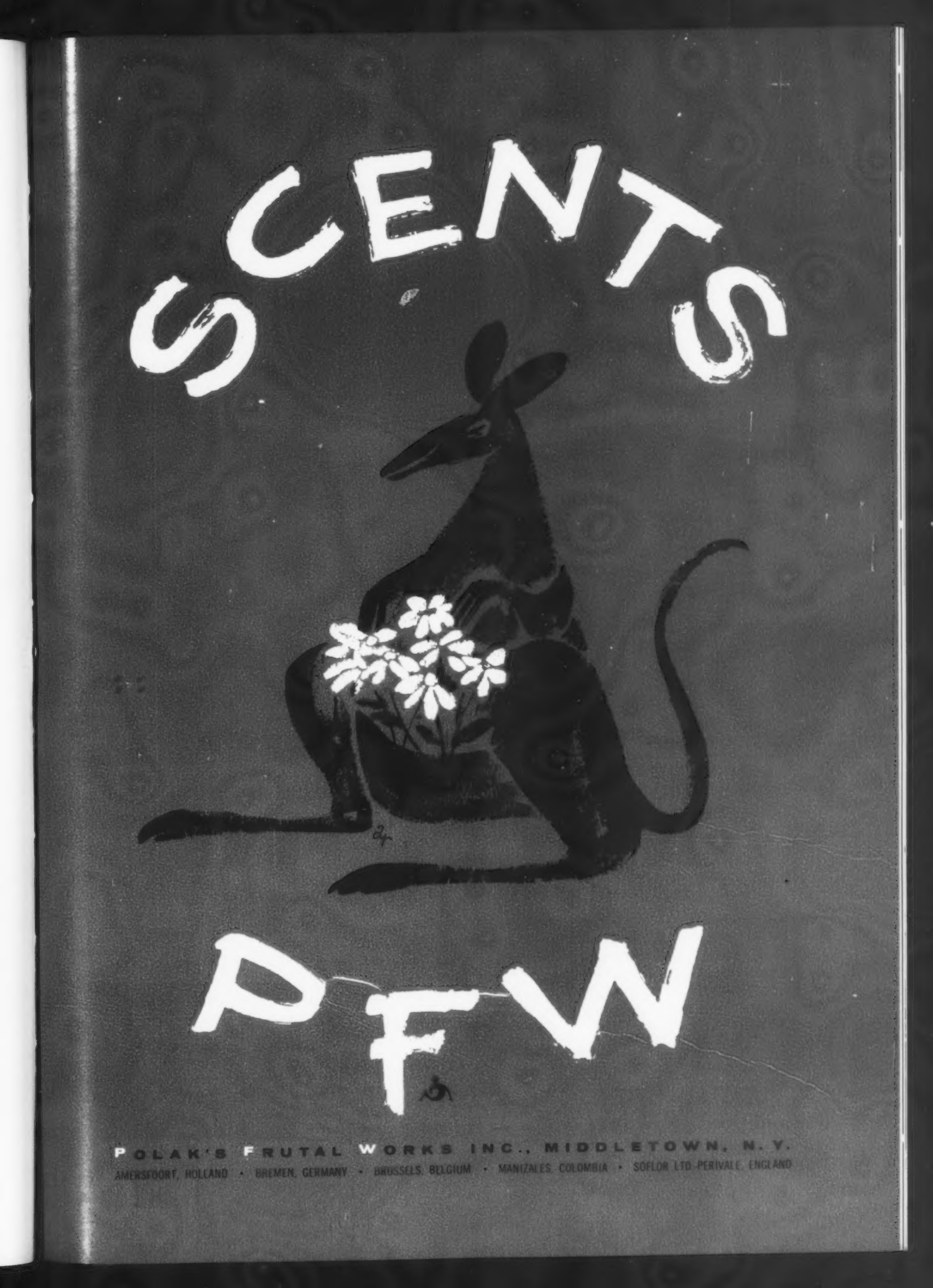
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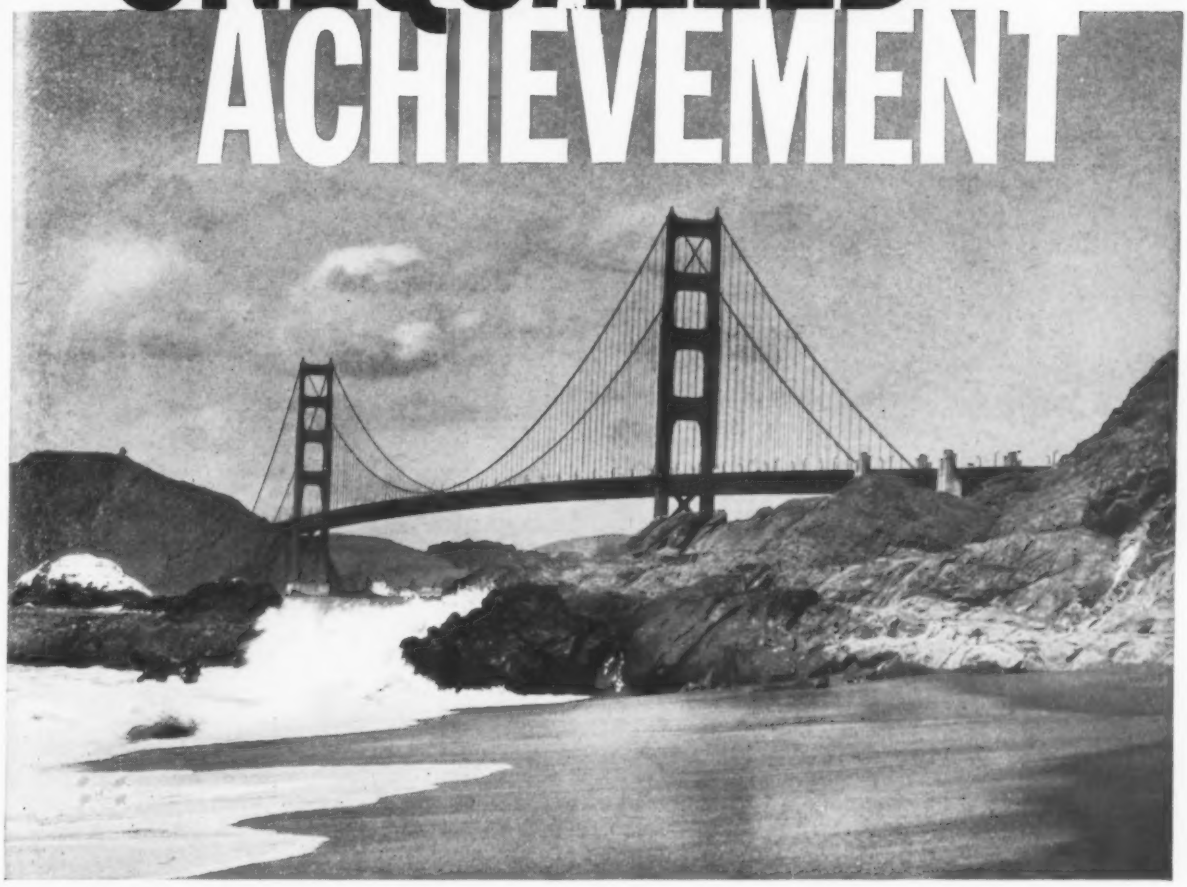
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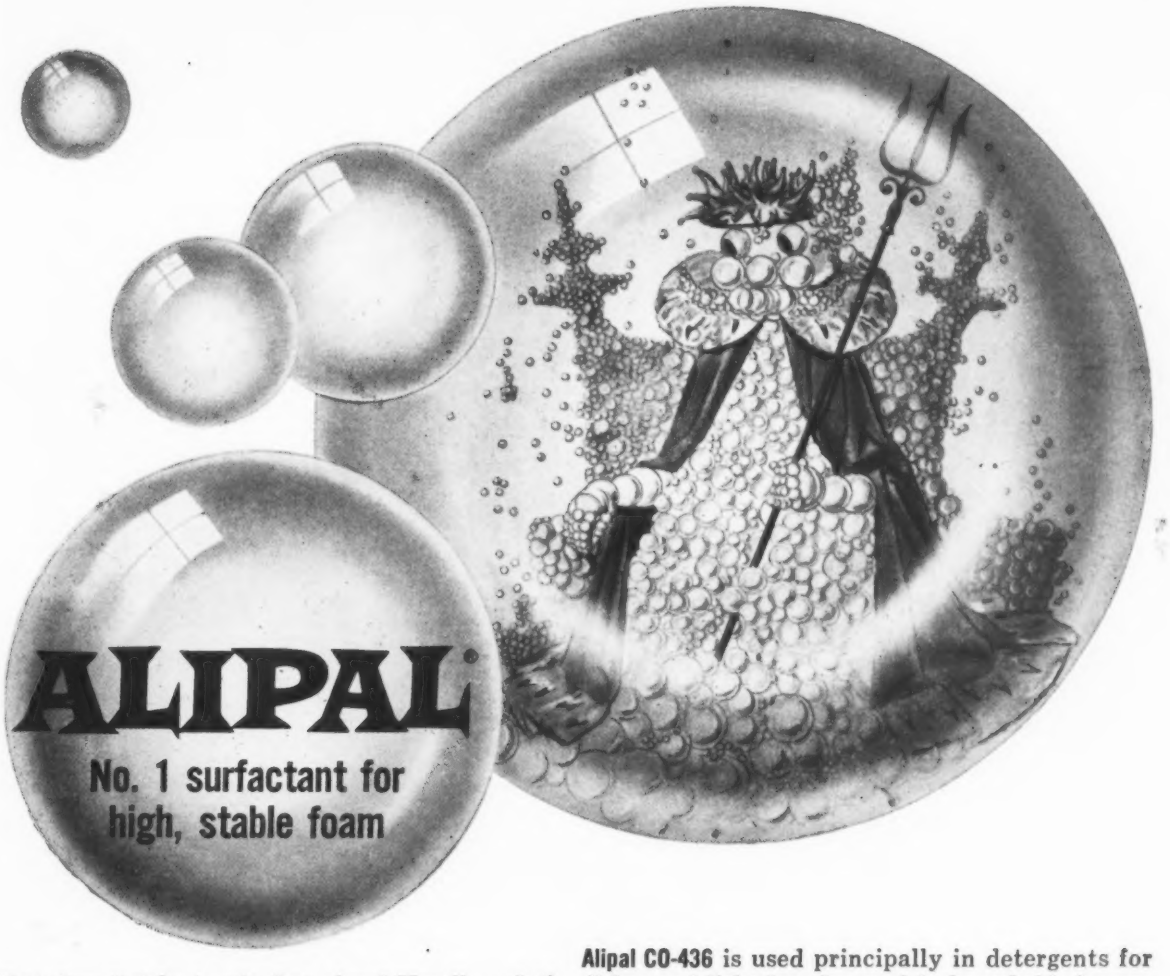
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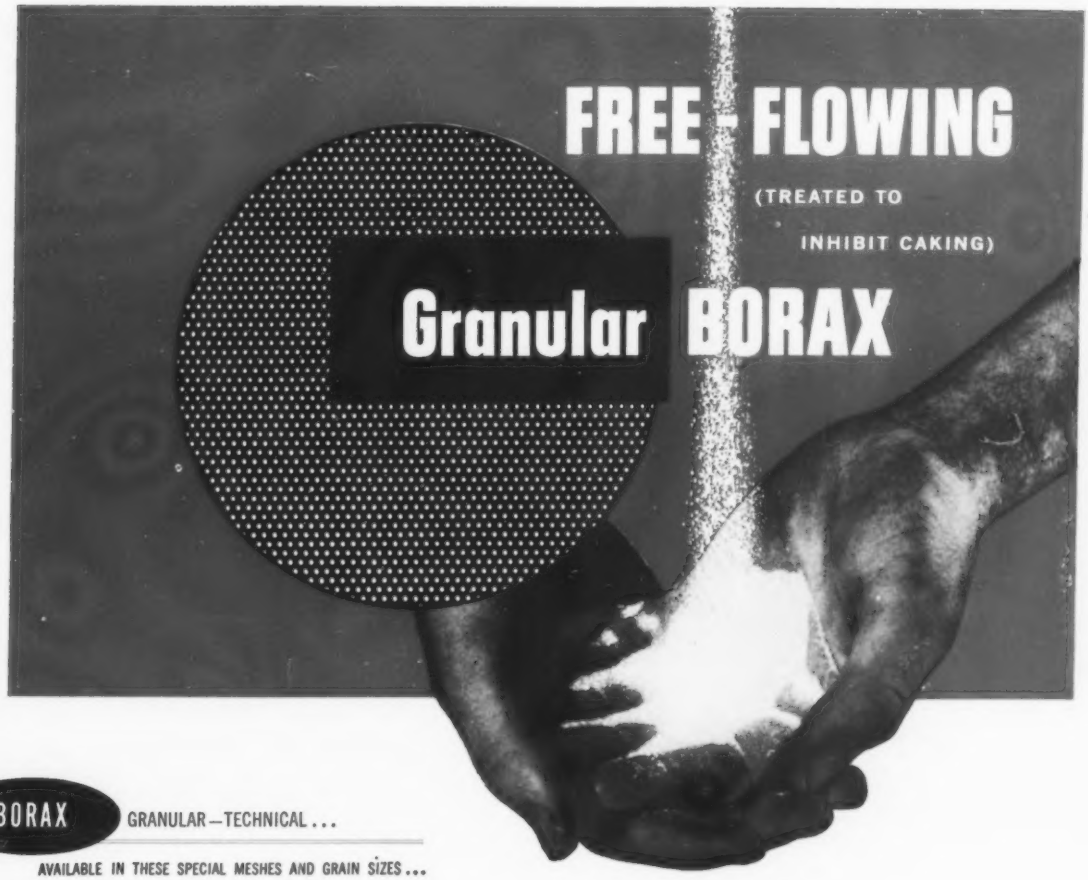
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Granular 8/60 (Special Mesh)	+ 8 + 60	Nil 80.0%	+ 8 +100	none min. 90%
Granular 30/60 (Special Mesh)	+ 30 + 60	0.5% 69.8%	+ 30 +100	max. 1% min. 80%
Granular 30/70 (Special Mesh)	+ 30 + 70	0.3% 71.0%	+ 30 + 40	max. 1% max. 20%
Granular 30/80 (Special Mesh)	+ 30 + 80	0.8% 76.6%	+ 30	max. 1%
Granular 30/100 (Special Mesh)	+ 30 +100	Nil 86.7%	+ 35 +100	none min. 85%
Granular 40/100 (Special Mesh)	+ 40 +100	Nil 89.0%	+ 40 +100	max. 0.5% min. 88%
Granular 40/140 (Special Mesh)	+ 40 +140	0.1% 88.8%	+ 35 +100	none min. 50%
Granular 40/200 (Special Mesh)	+ 40 +200	0.1% 84.1%	+ 30	none
Granular 60/200 (Special Mesh)	+ 60 +200	0.1% 66.7%	+ 60	max. 1%
Granular 80/200 (Special Mesh)	+ 80 +200	2.0% 67.6%	+ 60 + 80	none max. 5%

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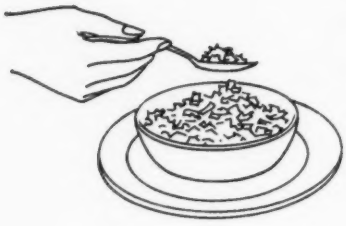
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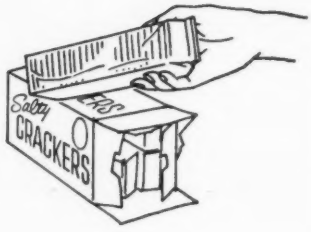
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as the editor sees it...

CSMA

The Chemical Specialties Manufacturers Association is meeting in Hollywood, Fla. Well over 1,000 member representatives are attending. Whereas in the days of yore, CSMA meetings were nice small comfortable things to attend, now they resemble a cross between a political convention and a class reunion. Thirty-five years ago, CSMA met at Quebec and the attendance totaled 20 members, all male. What they lacked in numbers, they made up in unbridled enthusiasm. Nothing much was accomplished, but most everybody had a good time. Today, we have a large attendance of ladies, something unheard of in the old days. Meetings are in session all the time, ten or twelve at a crack. Nobody gets a chance to catch a quiet breath. Beady-eyed members dash hither and yon toting big brief cases and stacks of papers. Yes, brother, it's a changed world for old CSMA this year marking its 47th annual meeting.

* * * * *

RETAILING AEROSOLS

A retail grocer admitted recently that retailers in general were not as well informed as they might be on the peculiar nature and advantages of aerosols. In fact, he attributed to this the fact that Canadian sales of aerosols, on a per capita basis, were lagging behind those of the U. S. Speaking before the recent meeting of the Canadian Manufacturers of Chemical Specialties Association, the retailer agreed that those interested in the sales of aerosols might help boost sales by joint sponsorship of aerosol clinics for retailers. The idea being, of course, that the more the retailer knows about aerosols, the better he will be able to sell them. Such a program could also be useful in the U. S., sponsored perhaps by the Aerosol Marketing and Publicity Committee of CSMA. Thus far, the efforts of this group have been directed mainly at consumers. Maybe a little more work with retailers might be helpful. It's worth a try.

BRAND X

Sooner or later, somebody had to pick up this "Brand X" thing from television commercials and turn it into a buck or two. First comes out a cigarette called Brand X which boasts that it is the second best. Now we hear of Brand X window cleaner which promises an end to window cleaning forever. We don't know how it works, but suspect that it may dissolve out the glass and thus with one stroke remove the cause of the trouble, i.e., dirt settling on the window panes.

For a long time, Brand X has been the inferior product, the "other brand," the lousy, low-grade competitive product. Now, one or two of the great brains of Madison Avenue are going to capitalize on the familiarity of Mrs. McGuff with Brand X. Now it's window cleaner. Next will come a Brand X dishwashing compound which flushes the dishes right down the drain, no fuss, no muss, no bother,—and greasy dishes eliminated forever. The possibilities seem without limit. At least, the jerk who thought up this Brand X thing has a sense of humor so completely and sadly lacking in many stodgy merchandising schemes for household products.

* * * * *

LABELING . . . AGAIN

At the risk of laboring the subject, we should like to point out once again that the enforcement date of the Hazardous Substances Labeling Law is Feb. 1, 1961. Because of its importance to every manufacturer and marketer of chemical specialties, we urge that they read the complete text of the law, which was published in the August issue of this magazine. It is also advisable to study all bulletins of the Chemical Specialties Manufacturers Association dealing with the new law. As soon as regulations are issued spelling out what is required of manufacturers in labeling their products, they will be notified. He who knows the law will be better able to protect his own interests.

"I hear she's got ETH-AN-OLA-MIDES in her kitchen!"



Of course she does, ladies. But you can relax. Smart, technically alert soap and chemical specialty manufacturers have stocked not only her kitchen, but nearly every other room in her house with soaps, detergents, waxes or cosmetics containing ethanolamides.

In detergents, these important compounds act as foam stabilizers and viscosity boosters. They're used as dispersing agents and corrosion inhibitors to permit packaging of institutional cleaners in mild steel. You'll find them in textile softening agents, wool scouring and cotton washing formulations.

ALLIED CHEMICAL ETHANOLAMINES—used in preparing ethanolamides — are manufactured by an improved process which assures purity and high quality. Write or phone for specifications or technical assistance in formulating ethanolamines into your operation.

For specifications and local offices, see our insert in Chemical Materials Catalog, pages 475-482 and in Chemical Week Buyers Guide, pages 37-44.

BASIC TO AMERICA'S PROGRESS

Allied Chemical

NITROGEN DIVISION

Dept EA 9-27-5 40 Rector Street • New York 6, New York

CRIME SOLVENT

Soap and bathing may yet become the ultimate solution of crime. And the soaps of tomorrow will leave the human body so completely "dirt-proof" that only one bath a month will be necessary. This was the prediction of a column called "Criswell Predicts" in the National Enquirer recently. But this treason of one bath a month was tempered by the prognostication that Americans would never alter their bathing habits. People will continue to "bathe daily," not because they're dirty, but because they like it.

As more people bathe more often, the relaxing and calming effects of the daily bath will quiet everybody down. We will become a calm and relaxed nation and there will as a consequence be a reduction in crime of all kinds. And we suppose when all of us become sufficiently relaxed, all crime will eventually disappear.

This is probably the best solution of the crime problem which we have yet heard. What a simple answer to juvenile delinquency. And here we are spending millions for new jails, judges and lawyers when all we really need is a bigger supply of soap, hot water and bath tubs.

* * * * *

FABULOUS

As the first year of the "fabulous sixties" draws to a close, we hear they are still looking for the fellow who predicted all this fabulous stuff. When they find him, if they ever do, he may have a few explanations to make. For the first of the "fabulous sixties," it would seem, has been slightly less than fabulous. A lot of businesses right in and around the chemical specialty field have taken it on the chin. Others, although business has been pretty good for them, have been disappointed. Evidently, they believed this widely sliced baloney which was handed out far and wide last January.

The really fabulous part of 1960 to date has not been a lack of orders. It has been the continued sharp rise in operating expenses. In some instances, these have been truly fabulous and are causing more than a raised eyebrow or two among stockholders. Sales up, net down has been the story. The panic button on expenses was pushed in many a company. But as far as we can see, it didn't do much good. Vast savings in paper clips, rubber bands and carbon paper have resulted. The greatest of our executive brains have given their "best thinking" to the problem. But the solution to this one seems to escape them. Costs still go up.

But we imagine that American business will survive. And the same goons who fed us this "fabulous sixties" stuff a year ago will come up with much the same words to a different tune come early January or sooner.

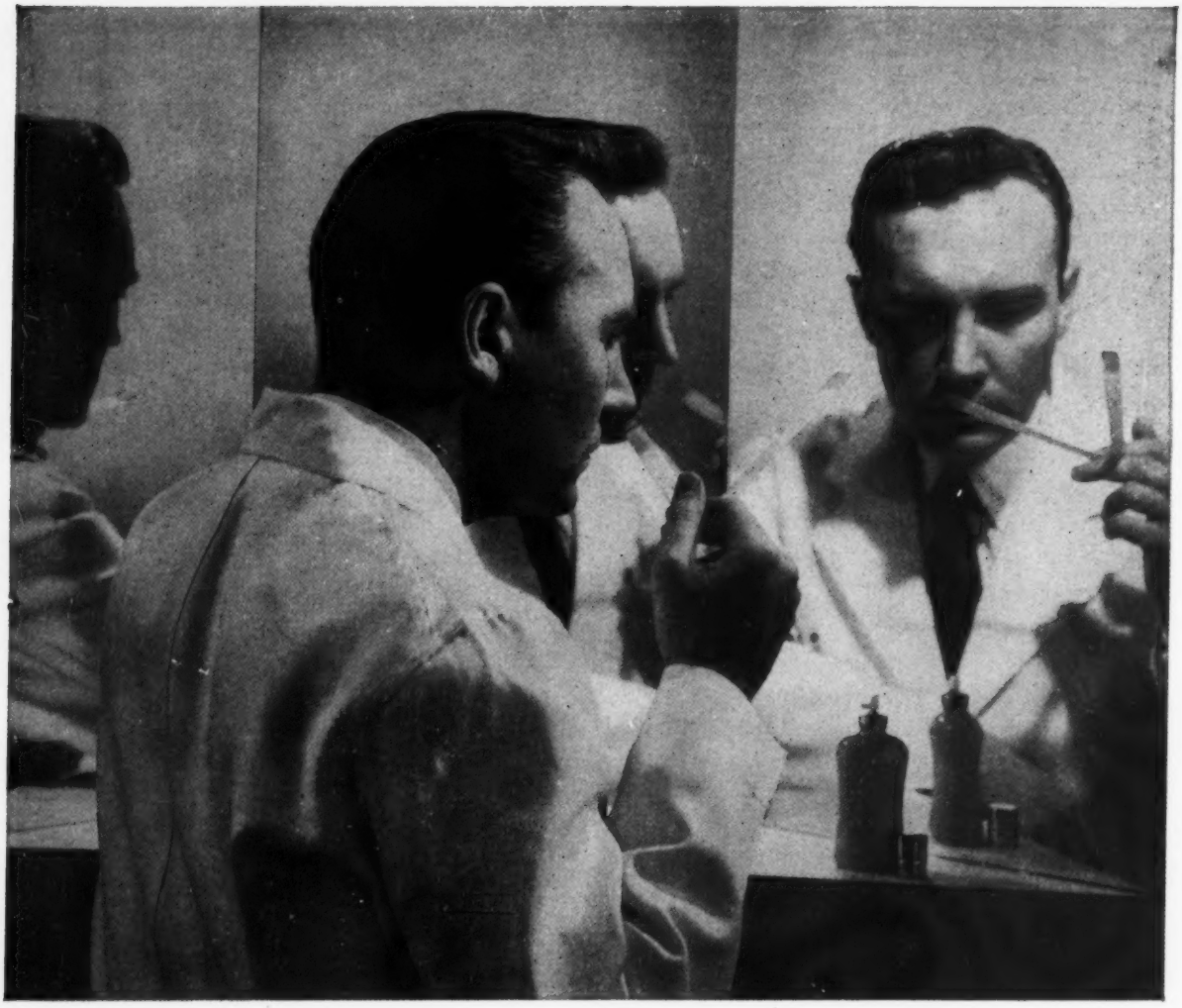
* * * * *

SOAP SALES

Sales of detergents and soaps for the third quarter of 1960 followed pretty much the pattern of the previous two quarters. For the first nine months of the year, total sales were up 3.1 per cent over 1959, again establishing an all-time high. Sales of all detergents moved up 4.5 per cent in tonnage, commanding 76.1 per cent of the over all market. Soap sales were down 1.1 per cent in tonnage, but moving against this trend were increases of 2.2 per cent in toilet soaps, 8 per cent in liquid soaps, and a sharp move upward in liquid shampoos of 23.9 per cent. Scouring cleansers showed a slight drop of 1.2 per cent for the first three-quarters.

These and other figures of the Association of American Soap & Glycerine Producers reveal a steady uptrend in total sales slightly greater than the rate of population growth in the face of uncertain general economic conditions. As sales of soaps continue to move downward, toilet soaps are still outstanding as they rise against the trend. Half of all solid soaps sold in the U. S. today are toilet bars. Outstanding again is the continued sharp rise in packaged liquid detergents which zoomed upward 14.8 per cent in volume and 9.4 per cent in value.

To us the sales figures reveal the evidence of an excellent sales job done by the industry over the past several decades. And they reveal how completely detergents have displaced soaps as the workhorse of detergency. Only toilet soaps alone continue to stand their ground in a strongly entrenched position.



Let's look at your cosmetic aerosol fragrance problem from every angle!

In custom-creating a fragrance for your cosmetic aerosol, Givaudan examines your problem from *every* angle—perfume efficacy and consumer acceptability... types of propellents... pressure... solubility... compatibility... container material... cost and other factors.

Our staff is equipped with the skill, knowledge and specialized facilities to study such problems scientifically. Thus we can supply you with a fragrance that is not only technically correct from every viewpoint but uniquely and specifically *yours*. May we work for you—with you—to give your cosmetic aerosols exactly the right fragrance appeal?



GIVAUDAN-DELAWANNA, INC.
321 West 44th Street, New York 36, N. Y.

as the reader sees it...

Where Is Eclipse?

Editor:

In the October, 1960 issue of *Soap and Chemical Specialties*, on page 119, there is an article with the heading "Plastic Container Plant." The name and address given is Eclipse Plastics Industries, Inc., Milwaukee, Wisconsin. We mailed a letter to Eclipse in Milwaukee, but the post office returned the letter to us because of insufficient address. Would you please forward our letter to this firm with the correct address.

Dale Plaskett,
Dale Laboratories,
7011 Monroe Ave.
Hammond,
Indiana.

Ditto

Editor:

In the October, 1960, issue of *Soap and Chemical Specialties* we ran across a news item concerning the Eclipse Plastics Industries, Inc. of Milwaukee, Wisconsin. However, we can get no information here in the city as to the address of this company.

Therefore, I would appreciate it if you could give me the complete street address or post office box number of this company so I can write for information.

Richard J. Shelstad
Edick Laboratories, Inc.
2358 S. Burrell St.
Milwaukee 7,
Wisconsin

To Messrs. Plaskett and Shelstad and any other readers who may have tried to contact Eclipse Plastics Industries, Inc., in Milwaukee, the story, as told to us via telephone by Eclipse's public relations firm, is as follows. The plastic container plant announced in a release we received from the Eclipse agency in mid-September stated that the plant was to be operating by October 1. However, due to he illness of the head of Eclipse, E. G. Engman, the operating date had to be indefinitely postponed, although the plant was just about ready to operate, according to our information. The address of the plant is 16112 N. 93rd St. W. Megal Drive, Menomee Falls, Wis. Eclipse also operates in Sarasota, Fla., and may be reached at P. O. Box. No. 430. Ed.

—★—

Sailing, Selling

Editor:

I should like to tell you about a recent selling trip this past summer which took place on and around Vancouver Island, British Columbia. In contrast to our networks of rapid transit highways and systems of communications in the States, there are still areas bordering our modern civilization which can be reached only by boat or plane. Driving, or even walking, is virtually impossible in the northern half of Vancouver Island. And so, after many years of traveling by plane, train and other modern modes of transport, I went aboard the good ship *Eileen*, owned by Miles and Malcolm Dighton of Camosun Building Services, Ltd., Victoria, B. C. The voyage was to be a business cruise around the island. This was my first experience "selling" chemical specialties from a boat.

Formerly a Norwegian fishing vessel, the *Eileen* is now a trim, twin-masted ketch, converted for pleasure – and business. She left port loaded with supplies for customers in the primitive interior who could only be reached by boat or light amphibian plane. We sailed north, up the straits between the island and the mainland, calling at Comox, Port Harvey, and then on beyond the northernmost road terminus to Alert Bay and Port Hardy, where we put ashore for work on the town's high school gym floor. Finishing this work, we set out along an old lumber camp road in a jeep station wagon for Port Alice.

If you look at a map you will note that this is the only "road" north of Kelsey Bay, in fact the only road of any sort in that part of the country. It is a backtwister over the mountains, but we swayed along merrily with a load of equipment: floor machines, vacuum pickups, cans of floor seal, cleaners, etc. Our destination was the public high school at Port Alice. Upon

(*Turn to Page* 269)



SHINING UP to a former World Series hero are Raymond W. Carlson, left, vice-president in charge of household products for S. C. Johnson & Son, Inc., Racine, Wis., and William N. Connolly, Johnson vice-prez. in charge of public relations. They are using one of Johnson's recently introduced shoe polish kits—complete with paste polish, dauber and shine cloth—to brighten up shoes of Vernal ("Nippy") Jones, ball player involved in famous shoe polish pitch that helped Milwaukee Braves win 1957 World Series from the New York Yankees.

How to make sure of Successful Formulation

1. Use Procter & Gamble products
2. Use Procter & Gamble formulation assistance

Kyro EO. KYRO EO. A neutral nonionic synthetic detergent of the 100% alkylphenol ethylene oxide condensate type. A clear light-colored liquid with a clean, pleasant odor. Its superior detergent, wetting and emulsifying properties offer excellent performance in liquid detergents, sanitizer-detergents, self-emulsifying solvents, laundry detergents, glass, textile, and dairy cleaners, insecticides, and bottle washing compounds.

Orvus AB Granules. AB GRANULES. A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulfonate type. A white spray-dried product that can be used effectively in the blending of bubble baths, car body shampoo, dishwashing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners.

Orvus WA Paste. WA PASTE. A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium lauryl sulfate. Excellent sudsing, wetting, dispersing and penetrating properties. Ideal for paste cream and liquid cream shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, glass cleaners, and especially effective for rug and upholstery cleaners.

Amber Granules. AMBER GRANULES. A neutral 88%, 42°C. titer type soap of outstanding purity and uniformity. Well suited for the preparation of paste or gelled products because of its high titer. Its granular form makes it ideal for blending powdered products. Excellent for the compounding of hand cleaners, paste cleaners, polishes, and lubricants.

Procter & Gamble products offer you a proven way to simplify your formulation problems and be confident of successful results. We invite your inquiry for further information and the opportunity to forward an Industrial Catalogue. Write to:

PROCTER & GAMBLE

Manager, Bulk Soap Sales Department
P.O. Box 599, Cincinnati 1, Ohio

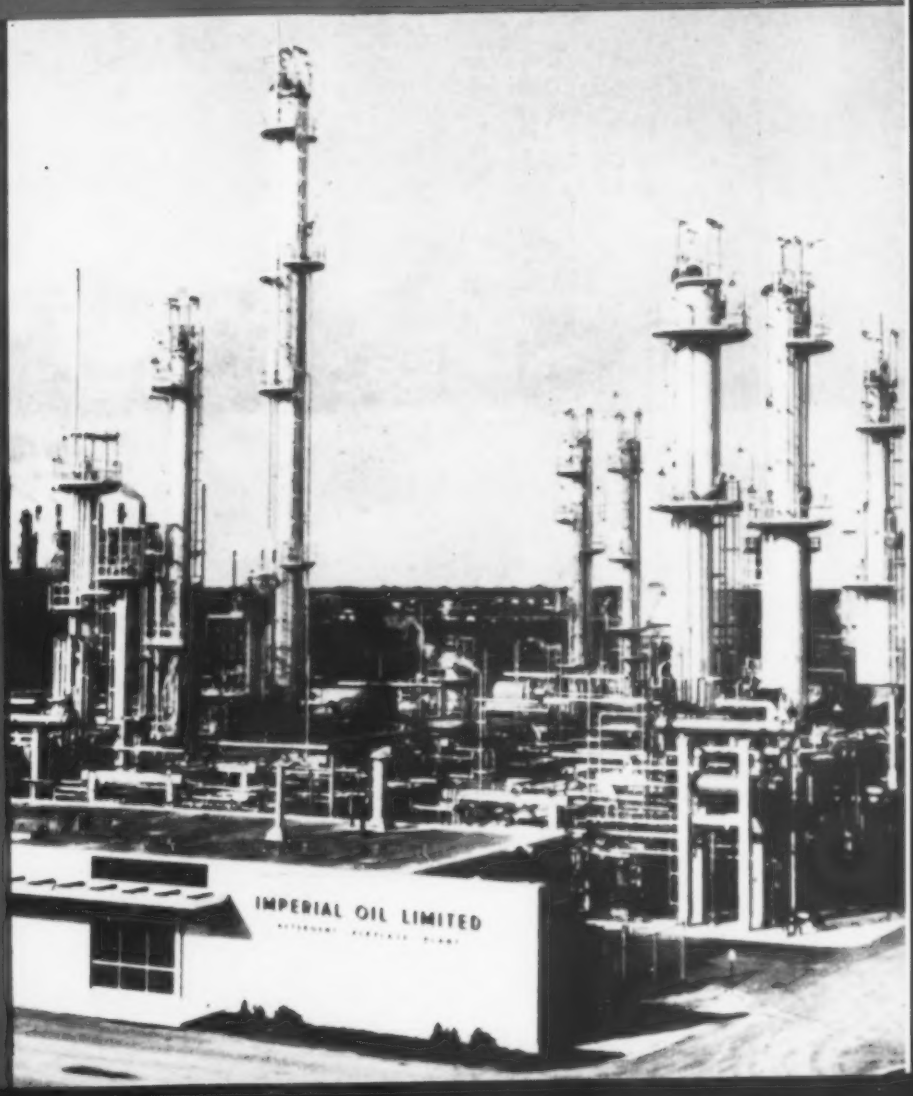
Ivory Beads. IVORY BEADS. A medium titer, neutral spray-dried white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required—hand soaps, polishes, protective creams, and dishwashing compounds.

Orvus ES Paste. ES PASTE. A specially developed synthetic detergent whose active ingredient is mainly modified sodium lauryl sulfate. Offers exceptional efficiency and stability over a wide range of operating conditions. Its excellent wetting, penetrating, sudsing, dispersing and emulsifying properties make it well suited for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners.

Orvus K Liquid. K LIQUID. A highly concentrated modified ammonium lauryl sulfate—formulated for increased sudsing and mildness. Exceptionally low cloud and pour points—highly fluid and easy to handle. Ideal for clear liquid shampoos, liquid bubble bath preparations, and liquid detergents when high foaming is required.

Detergents . . . Cleansers . . . Soaps . . .

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Medicinal soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Textile detergents
Toiletries
Toilet soaps
and other detergent
and soap products



Detergent alkylate plant of Imperial Oil, Ltd., at Sarnia, Ont., Canada. Plant was built exclusively for producing detergent alkylate and is independent of fuel products operation of firm's refinery there. Complicated equipment is required to carry out chemical reactions involved and separation and purification of high quality product required by synthetic detergent industry. See article beginning on page 57.



Can a Blockson phosphate improve your formulation?

tell us the properties you seek

Whatever your detergent idea may be, chances are good you can work it out better with a phosphate in your formulation. There are phosphates unsurpassed for removing fat and oil-based soils... phosphates that increase the cleaning power of other components in your formulation, especially the wetting agents.

For liquid detergents there is a phosphate soluble 200 parts in 100 parts cold water. For hard surface cleaning there are phosphates "tailor made" for the job; also a phosphate for destaining, bleaching and sanitizing. Applications are as varied—and versatile—as the detergent industry itself.

What are the performance properties you seek for *your* detergent? May we discuss it with you? Drop us a line.

BLOCKSON CHEMICAL COMPANY

Chemicals Division

Olin Mathieson Chemical Corporation

Joliet, Illinois

modern detergents mean phosphates, and phosphates mean BLOCKSON

Properties and performance characteristics of

Detergent Alkylates

By W. W. Stewart, Ph.D.*,
Manager, Development Division,
Chemical Products Department,
Imperial Oil, Ltd.
Toronto, Ont., Canada

SINCE the time of Plinius, who reported in about 70 A. D. that people prepared soap by boiling fat with wood ashes and lime, and up to a few years before World War II, the housewife and the industry used soap—the sodium or potassium salt of long chain fatty acids practically exclusively for cleaning purposes.

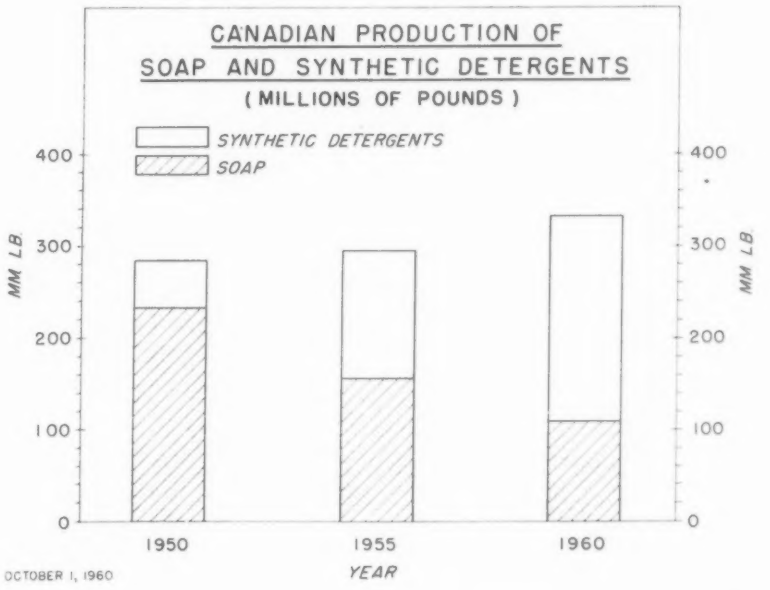
The endeavour of chemists to improve the undesirable properties of this excellent washing agent, together with the advent of the petrochemical industry, resulted in the commercial development of highly effective surfactants, for instance the alkyl benzene sulphonates, which could be manufactured on a very large scale at costs which came close to the price of soap.

As soon as it was realized that these new synthetic surfactants not only foamed and washed, but at the same time were stable to the hardness of the water, acids and alkalis, they gained more and more importance in the detergent market and began replacing soap in household washing powders and liquids as well as in many industrial applications. Information published on the Canadian production of soap and synthetic detergents illustrates the way in which synthetic surfactants have replaced soap. From Figure 1 it can be seen that in 1950 synthetic detergents accounted for only 17% of the total Canadian production of soap and synthetic detergents and that in ten years this percentage has steadily increased so that in 1960 the synthetic detergent production accounts for almost 70% of a larger total.

In view of the large potential market in the United States for synthetic surfactants it is understandable why several companies entered this business and constructed plants for the production of alkyl benzenes. The majority of these plants were established by companies associated with petroleum refining, since this segment of the industry had the raw materials and the technical knowledge required for designing and operating the type of chemical plant needed to manufacture alkyl benzene on a continuous basis. As a result of the competition which has existed between the several producers, the soap companies have been supplied with an essential raw material which has continued to increase in quality from the days of keryl benzene to present dodecyl benzene and higher molecular weight alkyl benzenes.

During the past decade the boiling ranges of this product, which is commonly known as detergent alkylate, have become narrower, the color stability and the color of the sulphonated product have improved, the odor and the unsulphonatable portion have been reduced. These quality improve-

Figure 1



*Paper presented during third annual meeting, Canadian Manufacturers of Chemical Specialties Assn., Montreal, Oct. 26, 1960.

ments have resulted in the better overall performance characteristics, but at the same time, due to the size of the production capacity and the competitive pressures, the selling price of the detergent alkylate has declined from a high of 20¢ per pound in 1948 to 11.5¢ per pound, the current price. Figure 2 illustrates the increase in the consumption of detergent alkylate in North America and the decline in the selling price of this product over the period 1948 to 1960.

In general, the production of petrochemicals in Canada lags behind the production of similar chemicals in the United States due to the size of the domestic market. However, by 1955 the consumption of synthetic detergents and the expected growth of the market attracted several companies to consider producing detergent alkylate in Canada. The first plant was built at Sarnia by Imperial Oil Limited and commenced commercial shipments of detergent alkylate early in December 1957. A second plant was brought into production by Shell Oil Company in Montreal during 1958.

The chemistry of the detergent alkylate synthesis is illustrated in Figure 3, which shows the reaction between propylene tetramer and benzene. This reaction appears quite simple on paper. Actually, the reactions which take place are complex and numerous. Control of the reaction by regulating process variables is most important in order to minimize the amount of by-product formed and to maintain uniform and consistent performance characteristics in the desired product.

A photograph of Imperial Oil Limited's detergent alkylate plant at Sarnia appears on page 55. This plant was built exclusively for producing detergent alkylate and is independent of the fuel products operation of the company's Sarnia refinery. It is obvious from this photograph that complicated equipment is required to carry out the chemical reactions involved and the separation and

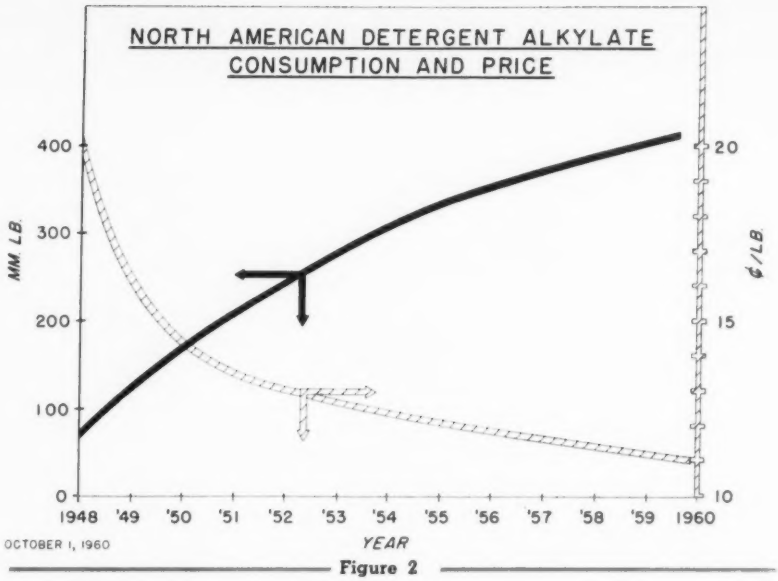


Figure 2

purification of a high quality product required by the synthetic detergent industry.

The major product of this plant, as well as those of other detergent alkylate producers, is an alkyl benzene having an average molecular weight equivalent to that of dodecyl benzene.

It is apparent from the chemical reaction in Figure 3 that the molecular weight of the alkyl benzene will depend on the molecular weight of the propylene olefin used as a feed stock.

It would have been very helpful to the chemist if propylene could be made to polymerize so that the resultant polymer would have been composed of just one definite multiple of three carbon atoms. This, however, has not been the case, and in practice a mixture of propylene polymers is formed of varying molecular weight. Furthermore, for some time, it appeared that the optimum reaction conditions for commercial poly plants favored the production of a range of olefins with an average molecular weight equivalent to 12 carbon atoms. Hence, limitations in the process used for olefin production curtailed the production of alkyl benzenes with molecular weights higher than dodecyl benzene.

However, over the past five years, the combined efforts of the market development engineer, the research chemist and the chemical engineer, stimulated by competitive pressures acting in the atmosphere of free enterprise, have resulted in the commerical availability of higher molecular weight alkyl benzenes. Since early this year soapers in Canada and the United States have been able to consider the use of at least two grades of alkyl benzenes in their various synthetic detergent formulations.

Our own research program,

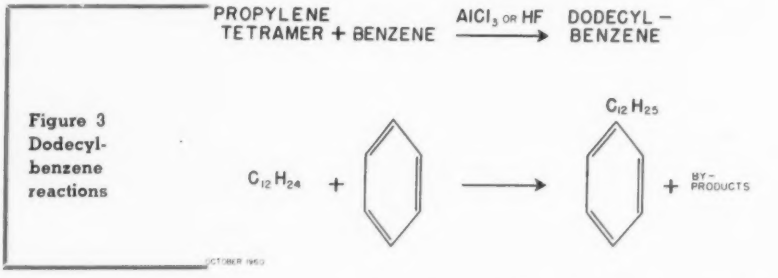


Figure 3
Dodecylbenzene reactions

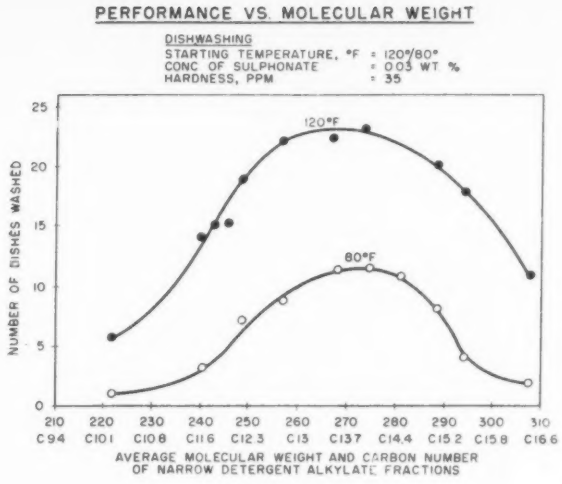


Figure 5.

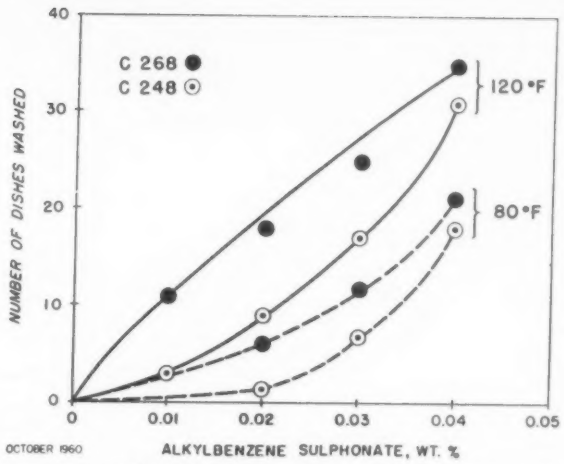


Figure 6. Dishwashing foam performance of detergent alkylates at 35 ppm water hardness.

has resulted in the introduction to the trade of three grades of alkyl benzene. Table I shows the typical properties of these three detergent alkylates which are stable, non-corrosive, water white liquids of low viscosity, synthesized from propylene and benzene.

It has already been shown that the molecular weight of the alkyl benzene and hence the molecular weight of the alkyl benzene sulphonate depends on the length of the hydrocarbon chain or, to state this another way, the number of carbon atoms in the side chain.

If the performance characteristics of alkyl benzenes having different molecular weights are determined in the laboratory, it becomes apparent that the performance of the alkyl benzene is directly related to the molecular weight, and therefore to the number of carbon atoms in the hydrocarbon side chain. The following graphs will indicate this correlation.

Figure 5 shows the effect of molecular weight of alkyl benzene sulphonates on foam performance as measured in the laboratory by a standardized dishwashing test.

From data shown in Figure 5 it can be seen that at molecular weights equivalent to a chain length of 10 carbon atoms, the foam characteristic — as measured by the number of dishes washed— is only one dish at 80°F and five dishes at 120°F. This is too low a "performance number" for an acceptable alkyl benzene.

At both temperatures used in the laboratory test it can be observed that as the molecular weight increases — and hence the number of carbon atoms in the side chain increases — the foam characteristics increase to a maximum and then decrease.

The alkyl benzenes used to obtain the performance data presented in Figure 5 were produced in the laboratory, since the boiling ranges of the products tested were much narrower than those available from plant operation. However, it is possible to produce commercial alkyl benzenes with varying molecular weights previously indicated in Table I. Performance characteristics of commercial alkyl benzenes as related to molecular weight are given in the following group of figures. The laboratory performance tests were run on a built synthetic detergent containing an alkyl benzene sulphonate prepared from an alkyl benzene which had a molecular weight of either 248 or 268.

Figure 6 shows the relationship between alkyl benzene sulphenate concentration in a wash water at temperatures of 80°F and 120°F and the dish washing foam performance as measured by the number of dishes washed. It is noted that at all concentrations and at both temperatures, the alkyl benzene with the higher molecular weight has the better dish washing foam characteristics.

These results indicate that a household detergent made with detergent alkylate C-268, having a molecular weight of 268, could be formulated with less active ingredi-

TABLE I. Typical Properties of Detergent Alkylates

Grade	C-248	C-258	C-268
Specific gravity 60/60°F.	0.877	0.877	0.876
Bromine number	0.01	0.01	0.01
Flash point, C.O.C.°F	270	270	275
Viscosity SSU, 100°F	49.5	54.5	58.0
Color saybolt	+30+	+30+	+30+
ASTM Distillation, °F D-447-57-T			
I.B.P.	534	536	545
50%	553	564	572
F.B.P.	573	598	602
Unsulphonated oil wt. %	1.1	1.1	1.2
Average molecular weight	248	260	268
Average length of hydrocarbon side chain	12.1	13.0	13.6

ent than that required to give the same performance when using a detergent made with the conventional type of dodecyl benzene (DA C-248).

For certain retail products, especially powders, the availability of higher molecular weight alkyl benzenes should enable the formulators to use less foam stabilizers, such as lauric acid di-ethanolamide, and still maintain the performance characteristics of their current formulations.

Figure 7 and Figure 8 show how a foam additive improves the dish washing foam performance of both a conventional alkyl benzene with a molecular weight of 248, and the most recent grade of alkyl benzene with a molecular weight of 268.

In Figure 7 it is apparent that at low alkyl benzene sulphonate concentration (0.01 wt.%) in warm water, the dish washing foam performance of the higher molecular weight alkyl benzene C-268 is better than that for the lower molecular product C-248 even with 4.0 wt. % addition of a foam additive to the built synthetic detergent.

It should be pointed out that the influence on the foam performance by the addition of a foam additive decreases as the alkyl benzene concentration is increased, but there is still a significant difference between the dish washing foam characteristics of these two alkyl benzenes at the practical concentration of 0.03 wt. % – as indicated by the data presented in Figure 8.

The data obtained from laboratory tests similar to those illustrated by Figure 7 and Figure 8 indicate that dishwashing foam performance of a higher molecular weight alkyl benzene can be equivalent to the same performance characteristic of a lower molecular weight alkyl benzene plus the addition of a foam stabilizer.

For example: At 120°F

C-268 equals C-248 +5% foam additive at 0.01% wt. at 120°F.
" " " +3% " " " 0.02% wt. " "
" " " +1.5% " " " 0.03% wt. " "

So far the data presented in this paper have shown the relationship between the molecular weight of the alkyl benzene and the foam characteristics of the product.

The soil removal properties of alkyl benzenes are of even greater importance to the consumer. Therefore, the following figures are used to indicate how the molecular weight of the alkyl benzene affects this performance characteristic.

It is generally recognized that measuring the soil removal by determining the light reflected from the soiled fabric before and after washing will vary depending on the type of equipment and the type of soiled fabric.

You are no doubt familiar with the "Launder-O-Meter" and the "Terg-O-Tometer" which are used in the laboratory to evaluate the washing performance of synthetic detergent formulations.

In our early work we had selected the "Terg-O-Tometer" for evaluating the washing performance of our development products. The results obtained appeared to have too wide a variation to permit proper evaluation of some of the variables being studied and it has been assumed that some of the difficulty resulted from the fact that the soiled fabric was wrinkled and twisted in the washing method, and that this uncontrolled distortion of the surface of the fabric has influenced the measurement of the reflected light.

Recently a new type washing machine which has been used in Germany for evaluating the washing properties of synthetic detergents has been installed in our

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Figure 7. Foam additive requirement decreases with increasing molecular weight of alkylbenzene.

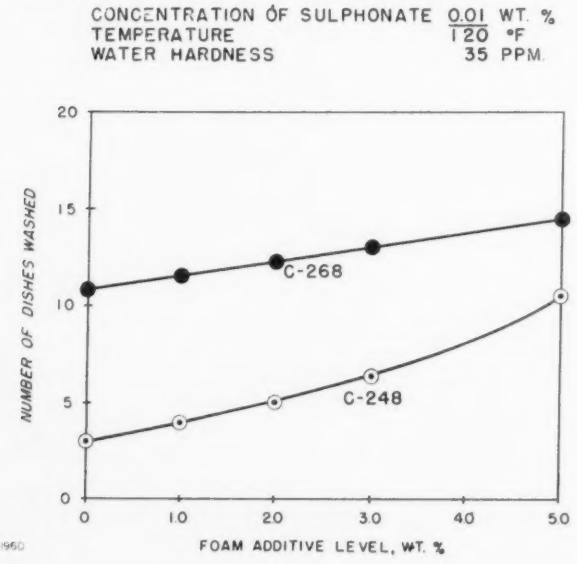
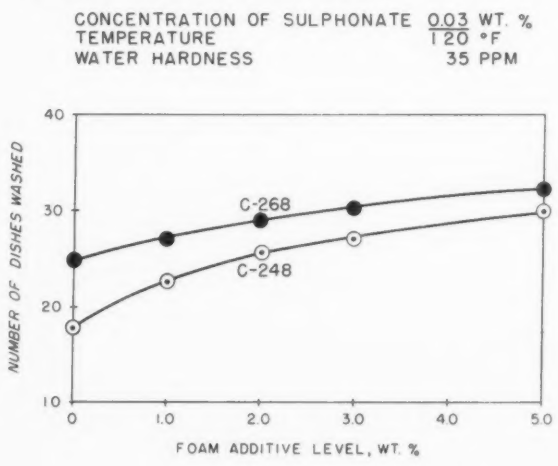


Figure 8. Foam additive requirement decreases with increasing molecular weight of alkylbenzene.



Industrial Metal Cleaners

By Donald Price,
Consulting Chemist
New York City

METAL cleaning as an industrial operation is mainly intended to prepare the surfaces of fabricated articles or appliances for the application of a final finish. The latter may consist of paint, enamel, lacquer, vitreous enamel, an electrodeposited coating, or any one of a number of other protective or decorative coatings. Metal cleaning for this purpose is an important step in production; in fact, the quality of the finished article depends to a great extent upon the effectiveness of the cleaning step. This in turn, depends upon the proper choice of correct cleaner and cleaning method, for the job to be undertaken.

Some notion of the volume of metal cleaning carried out by American industry may be gained from figures of the latest U. S. Census of Manufacturers published in 1954. These show that the production of household articles and appliances embracing washing machines, refrigerators, stoves and ranges, vacuum cleaners, electric irons, and toasters, all of which call for suitable finishes, amounted to 18 million units. If we also include metal household furniture, office furniture, and medicine wall cabinets, we add another 12 million units to make a grand total of 30 million units. We must also take into consideration some 5 to 6 million automobiles which require finishes not only for the entire body, but call for a variety of finishing operations on the hardware and miscellaneous other parts. It should be clear from the foregoing that cleaning prior to finishing is a large scale industrial operation.

Soils to be Removed

Except for products of atmospheric corrosion, the soils and other contaminants to be removed from metal surfaces before the final finish can be applied stem mainly from previous fabrication processes. These may consist of machining, forging, stamping, drawing, grinding, polishing, buffing, welding, soldering or heat-treatment. Additional soils commonly encountered are rust preventive oils, designed to give temporary corrosion protection during storage, ordinary shop dirt, and finger prints. Chemically, these soils fall into two categories. (1) Organic soils and (2) inorganic contaminants. The first group includes the following:

Mineral oils, used either for rust prevention, for machining, or a components of drawing, stamping and buffing compounds.

Vegetable or animal oils, used in cutting fluids or as ingredients in drawing and stamping compounds.

Fatty acids, soaps and greases, used in drawing, polishing and buffing compounds.

Sulfurized mineral or fatty oils, commonly used in cutting and grinding fluids.

Surface-active agents, rust inhibitors and other chemical products, which may be present in any metal processing compounds.

Carbonized or burned on break down products, of any of the above categories.

Aluminum parts being immersed in an alkaline solution designed to clean and etch, giving surfaces a mat finish for painting. Note how parts are racked but not stacked to permit solution to cover all surfaces. Hoist facilitates movement in and out of solution, and from cleaning to rinse tanks.

Photo courtesy Oakite Products, Inc., New York



Included in the inorganic group are:

Pigments such as lime, chalk, talc, lithopone, sulfur, graphite and so forth, present in heavy drawing compounds.

Abrasives such as rouge or tripoli used in polishing and buffing compounds.

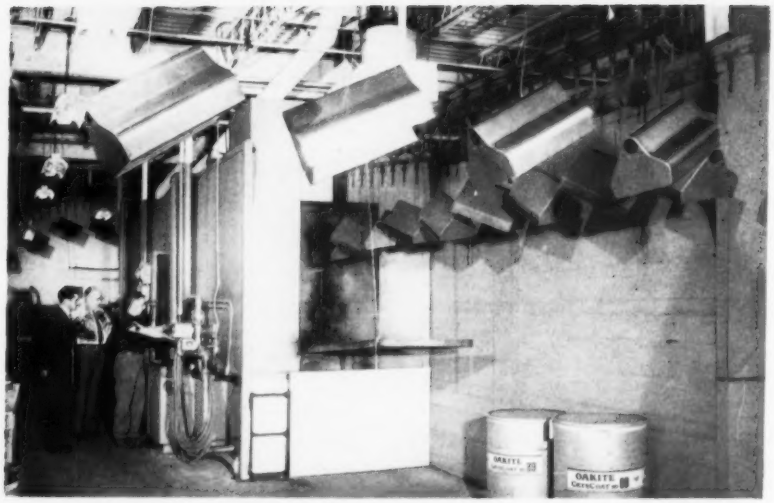
Chips and other metallic particles arising from machining operations.

Scale, produced by heat treatment or welding.

Identification inks and paints.

Carbon smuts and pickling residues.

Rust and other products arising from atmospheric corrosion.



Lawn spreader parts entering washing stage of spray washing machine. Detergents used for this purpose must have high cleaning efficiency in low concentration, must be non-foaming, and free rinsing. Such machines frequently have three stages: washing, rinsing, and drying, although some may have as many as seven different stages, depending upon work being processed and its subsequent treatment.

Photo courtesy Oakite Products, Inc., New York

Tests for Clean Surface

A number of investigators have worked on the development of a satisfactory test for estimating the cleanliness of a metal surface. Ten years ago Linford & Saubestre reviewed the literature of metal cleaning (1) and listed the following direct tests designed to determine the relative absence of organic contamination:

1. Water break test
2. Spray-pattern test
3. Gravimetric test
4. Residue-pattern test
5. Fluorescent dye test (3)
6. Radioactive tracer test (4)
7. Ferricyanide paper test
8. Copper deposition test

To the foregoing, should be added the Atomizer Test developed by Linford & Saubestre themselves (5). These authors discuss at some length the advantages and limitations of each of the tests and go on to discuss methods of evaluating total surface cleanliness as related to the requirements of electroplating.

Despite the time and effort which has been devoted to test methods, the simple water-break remains the most widely used test in shop practice. This is no doubt due to the fact that other methods either require special equipment or are considered too time consuming for use by the average metal finisher. The water-break test certainly has had the advantage of speed and simplicity. A cleaned metal panel is plunged into cold water and the water film examined after withdrawal. If it forms a continuous film over the entire surface, the metal is considered clean. On the other hand the presence of any residues will cause the water film to break leaving certain areas not wetted. For many purposes the test is quite satisfactory. However, under certain conditions a ditry surface may sustain a continuous film, for example, in the case where hydrophilic material has been absorbed preferentially.

Sometimes the terms "physically" clean and "chemically" clean are applied to a metal surface. A "physically" clean surface simply means that all visible soil and gross dirt have been removed. A "chemically" clean surface has been freed not only from all traces of grease and metal working residues, but also from substances derived from the basic metal itself, such as oxides and other corrosion products, i.e. we are dealing with nothing but the pure metal itself.

In an article called "What is a Clean Surface?" Lyons has pointed out (6) that such an ideal is probably unattainable, or at any rate not worth striving for. A more realistic view is that a "clean" surface is one on which any objectionable films have been replaced by others which are compatible with and not detrimental to subsequent finishes. Such replacement may be accomplished by the action of cleaning baths.

Types of Metal Cleaners

In the days when manufacturers could afford to use hand labor in their cleaning operations, the simplest chemicals such as caustic soda and soaps sufficed to do the work. But times have changed; cost of using manual labor in our present day large scale cleaning cycles would be prohibitive. We now have to depend wholly upon chemical cleaning. This throws the entire burden upon the cleaning material and method by which it is applied; a burden which is growing with the rapid advances in metal technology. The finisher faces today a variety of complex new soils which did not exist a few years ago. As a consequence, metal cleaning has advanced, if not to a science, at least to a highly skilled art based upon definite scientific principles.

Modern metal cleaners fall into several groups on the basis of their composition. Within these groups, however, formulations vary considerably according to the nature of the soil to be removed, the method of application, the metal to be cleaned, and the degree of cleanliness required for the subsequent operations. Metal cleaners may be roughly classified into:

1. Alkaline cleaners;
2. Solvent cleaners;
3. Solvent-emulsion cleaners;
4. Chlorinated solvents – for vapor degreasing;
5. Acidic cleaners;
6. Alkaline or solvent type baths for ultrasonic cleaning.

To be acceptable, a metal cleaner must be an efficient remover of the soil for which it was designed; must be readily rinsable; reasonably stable in storage; noncorrosive to the metal on which it is used; resistant to hard water; and reasonably priced in use.

Metal cleaning always involves a cycle of operations which varies in complexity according to kind and amount of soil to be removed and results required. In tank cleaning, for instance, the cycle may consist of no more than a single heated tank of cleaning solution followed by a running rinse tank. Where necessary, however, the cycle may run to six or more steps. A precleaner and rinse to remove the heaviest soil may be used ahead of the main cleaning tank and an acid pickle and rinse may follow. If the surfaces are to be electroplated, one or more electrocleaning steps may be included.

Similarly, pressure spray washers involve multiple stages. Sometimes, two cleaner compartments are used, with or without an intermediate rinse. A final rinse will follow and often a drying stage. Except in very small installations, parts to be cleaned travel automatically through the washer suspended from an overhead conveyor line. Frequently, large tank installations are also conveyorized. Helpful information on metal cleaning methods and their applications is available in the commercial and technical literature (7,8).

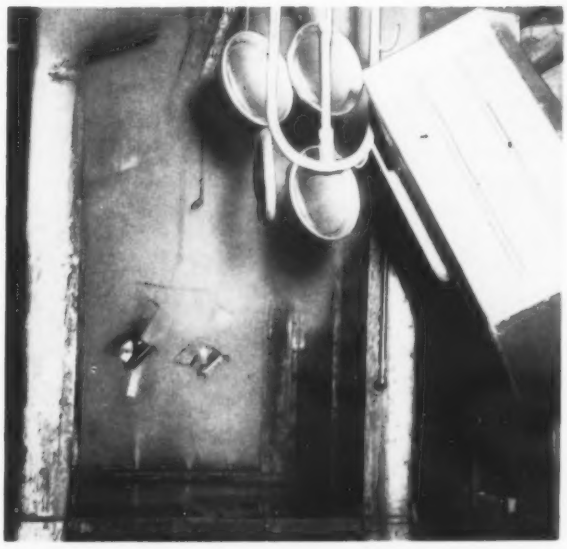
Alkaline cleaners are the work horses of the cleaner industry (9) their many advantages placing them in a unique position. They are cheap and convenient to use, since they are supplied by the manufacturer in dry powdered or granular form to be dissolved in water by the consumer. Furthermore, alkaline cleaners can usually be applied with relatively simple and inexpensive equipment. However, their most important advantage is their versatility, permitting formulations of such wide variety that they may be adapted to almost any cleaning job. Another important consideration is the fact that surface active agents of all types can be incorporated in such formulations.

Table I.

	pH of 1% solution
Sodium hydroxide — $NaOH$	13.4
Sodium orthosilicate — Na_4SiO_4	13.1
Sodium metasilicate (anhydrous) — Na_2SiO_3	12.8
Sodium metasilicate (pentahydrate) — $Na_2SiO_3 \cdot 5H_2O$	12.6
Sodium sesquisilicate — $Na_3HSiO_4 \cdot 5H_2O$	12.8
Trisodium phosphate — $Na_3PO_4 \cdot 12H_2O$	12.0
Sodium carbonate (soda ash) — Na_2CO_3	11.2
Tetrasodium pyrophosphate — $Na_4P_2O_7$	10.2
Sodium sesquicarbonate — $Na_2CO_3 \cdot NaHCO_3 \cdot 2H_2O$	9.9
Sodium tripolyphosphate — $Na_5P_3O_{10}$	9.7
Sodium tetraborate (borax) — $Na_4B_2O_7$	9.4
Disodium phosphate — Na_2HPO_4	9.0
Sodium bicarbonate — $NaHCO_3$	8.4
Sodium sulfate — Na_2SO_4	7.0

Alkaline cleaner formulations usually contain alkalis, alkaline salts, soaps (either fat or rosin derived), surface active agents, and minor ingredients such as inhibitors, sequestering agents, and so forth. Principal inorganic ingredients of these formulations appear in Table I.

Suitably blended mixtures of the foregoing inorganic compounds constitute 90% or more of alkaline cleaner compositions, making up the cleaner "base." These materials provide the necessary alkalinity to neutralize acidic soil components, to saponify oils and fats, to sequester hard water salts or otherwise provide water softening, and to act as builders for the active detergents. Certain of the silicates not only perform the above functions, but also provide protec-



Automotive parts entering five-stage spray cleaning and phosphatizing tunnel (180 feet long) in South Bend, Ind., plant of Studebaker-Packard Corp.
Photo courtesy Products Finishing

tion against attack upon non-ferrous metals. They also exert good dispersing, emulsifying and cleansing action. Both the phosphates and silicates have good buffering action.

It would be quite possible to compound a fairly satisfactory alkaline metal cleaner using no other ingredients than those listed in Table I. However, the demands of present day metal finishing are so exacting that this is seldom attempted. Today, it is considered essential to incorporate one or more surface-active agents to obtain a first-rate cleaner.

While the alkaline ingredients perform the above mentioned functions, it is the soaps and synthetic detergents which are responsible for the real cleansing action of the mixture. These surfactants are also variously described as wetting agents, emulsifiers and synthetic detergents, according to the particular function they perform best in a given application. The properties of surfactants is a subject which has been treated thoroughly elsewhere (10,11). They are organic compounds with soap-like properties but without the sensitivity to hard water and low pH which are the great disadvantages of soap.

Tremendous activity has marked the field of surfactants since their introduction in the early 1930's and the number and variety of these compounds on the market is bewildering. J. W. McCutcheon's well-known compilation, a new edition of which has just been published (12), lists over two thousand surfactants available from nearly three hundred suppliers. Only experts in the field are competent to select from this very vast array of compounds the right product to meet the requirements of any specific metal cleaning problem; and the reader may be assured that experts have their difficulties more often than not.

It is a common practice to refer to heavy-duty, medium-duty and light-duty alkaline cleaners, according to the soil load the products are required to remove. No sharp dividing line exists between these classes, however. As a rough rule we may call heavy-duty cleaners products containing 25% or more of free caustic soda, medium-duty those incorporating less than 25% caustic soda, or in which the latter is replaced by a substantial amount of a salt possessing high active alkalinity. Light-duty cleaners contain no caustic soda at all.

Compositions of alkaline cleaners are determined also by the metal to be treated. Obviously, a formulation designed for heavy duty cleaning of steel in a hot tank would have entirely too high a pH for use on aluminum and other non-ferrous metals. The following table, prepared by Mohler (13), gives the allowable pH ranges of alkaline cleaning solutions to be used on various kinds of metals.

Table II. pH Range for Hot Alkaline Solutions

pH	Metal Substrate
12.6-13.2	Heavy-duty cleaner for steel
12.0-12.8	Light-duty cleaner for steel
11.6-12.2	Brass, magnesium
11.2-12.0	Magnesium, brass, lead
10.8-11.4	Magnesium, tin, lead, aluminum, zinc
10.4-11.2	Aluminum, zinc

As indicated earlier, metal cleaning has emerged from the rule-of-thumb stage and is now definitely based upon more exact principles. Major cleaner manufacturers maintain extensive research laboratories where many months of work may be devoted to determining the right combination of surfactants and alkaline builders to secure a desired result. Finally, before the cleaner is placed on the market it must be subjected to extended evaluation procedures, both in the laboratory and under field conditions. Naturally, the manufacturer jealously guards the exact composition of his cleaning compounds, except where the use of some entirely new ingredient or other novel feature enables him to secure a patent.

However, as Lesser indicated some years ago (14), formulas for

(*Turn to Page* 255)

New Surfactants Listed . . .

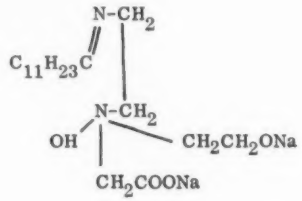
By John W. McCutcheon

Part III

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Igepal DJ 970	Antara Chemicals, division, General Aniline & Film Corp.	Alkylphenoxypoly(ethyleneoxy) ethanol	Detergent Wetting Emulsifier	Molten, Solid Flakes	100%	Nonionic	Solid water-soluble surfactant used for detergency, wetting, and emulsification; high-melting solid nonionic surfactant with good surface active properties; may be handled in all types of dry blending equipment; in industrial detergent formulations, as a component of hard-surface cleaners, alkaline bottle-washing compounds, wall and floor cleaners and dairy detergents and sanitizers; in household products, a component of controlled-suds built heavy-duty detergents and of soap-syndet toilet bars for hard water; in pesticide formulations, a quick-dissolving dispersing and wetting agent as well as a hydrophilic type of emulsifier.
Igepal DM-530	Antara Chemicals, division, General Aniline & Film Corp.	Alkylphenoxypoly(ethyleneoxy) ethanol	Emulsifier	Liquid	100%	Nonionic	Oil-soluble emulsifier that forms stable water-in-oil emulsions (a 10% solution of Igepal DM-530 in a non-polar solvent will "solubilize" 5-20% water). Suggested for acid bowl-cleaner emulsions, textile finishing oils, agricultural emulsions, etc.
Igepon TN-71	Antara Chemicals, division, General Aniline & Film Corp.	Sodium N-methyl-N-palmitoyltaurate	Detergent Dispersant	Liquid	14.5%	Anionic	Detergent with good dispersing and suspending properties. Herbicide and insecticide dispersant.
Intexsan SB-25	Intex Chemical Corp.	Stearyl dimethyl benzyl ammonium chloride	Softener	Paste	25%	Cationic	Hair softener and conditioner.
Invadine BL Conc.	Ciba Co.	Sodium salt of an alkylated aryl-sulphonic acid	Wetting	Powder	100%	Anionic	Wetting agent; also for hypochlorite baths and carbonizing liquors; leveling agent and penetrant in acid wool dyeing.
Invadine JFC	Ciba Co.	Nonionic derivative of a higher oxy compound	Wetting Detergent	Liquid	25%	Nonionic	Wetting agent; detergent; can be used in sizing and desizing.
Invadine MET	Ciba Co.	Salt of sulphuric acid ester	Wetting	Liquid	65%	Anionic	Wetting agent for mercerizing; contains no cresol.
Isopropyl Lanolate	American Cholesterol Products, Inc.	Isopropyl ester of lanolin fatty acids	Emulsifier Softener	Paste	100%	Nonionic	Lanolin derived lubricant, emollient, auxiliary W/O emulsifier for cosmetics and pharmaceuticals.
Isothan Q-75	Onyx Chemical Corp.	Lauryl isoquinolinium bromide	Fungicide Germicide	Liquid	75%	Cationic	Dandruff shampoos and rinses; an agricultural fungicide.
Kamco D	Kamco Industries, Inc.	Alkyl aryl sulfonate	Detergent	Bead	35%	Anionic	General detergent for household use; high sudsing.
Kamco L	Kamco Industries, Inc.	Modified alkyl aryl sulfonate	Detergent	Liquid	35%	Anionic	Light duty—for dishes and glassware, synthetic fabrics—high sudsing.
Kamenite	Kamco Industries, Inc.	Modified alkyl aryl sulfonate	Detergent	Liquid		Anionic	A general household cleaner.
Kamex C	Kamco Industries, Inc.	A compounded product	Detergent	Powder		Anionic	General built detergent for laundry and washing machines.
Kamex F	Kamco Industries, Inc.	Modified alkyl aryl sulfonate	Detergent	Bead		Anionic	General detergent for laundry and washing machines.
Kerosene Emulsifier CPH-49	C. P. Hall Co.	Ester	Emulsifier	Liquid	100%	Nonionic	Emulsifier for kerosene and other petroleum products.
Kessco E-119	Kessler Chemical Co.	Complex polyhydroxy fatty acid ester	Emulsifier	Liquid	100%	Nonionic	Oil soluble W/O emulsifier for oils and solvents.
Kessco E-122	Kessler Chemical Co.	Polyglycol ether fatty acid ester	Emulsifier Wetting	Liquid	100%	Nonionic	Water soluble, for use in textiles, paints, paper.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Lanitol L Conc.	Arkansas Co.	Triethanolamine alkyl aryl sulfonate	Detergent Wetting	Liquid	60%	Anionic	Concentrated liquid detergent for general textile use.
Lanogel 21 31 41	Robinson-Wagner Co.	Polyoxyalkylene lanolin	Emollient Wetting Dispersant	Gel	50%	Nonionic	A series of three products for cosmetic use in shampoos; facial tissues, hair tissues, etc.
Laurelton Oil	Apex Chemical Co.	Sulfated vegetable oil	Wetting Emulsifier	Liquid	37-75%	Anionic	Emulsifier for all oils, textiles; penetration and softening.
Laurex 10, 12, 14, 16, 18	Marchon Products, Ltd.	Fatty alcohol of 10, 12, 14, 16, 18 carbon chain	Detergent Base	Liquid Solid			Intermediate for detergents, emulsifiers, etc. Liquid (C_{10}), Solid (C_{12} to C_{18}).
LD-250 LD-260	Universal Detergents, Inc.	Modified sodium alkyl aryl sulfonate	Detergent Wetting	Liquid	40%	Anionic	Textile and metal detergents, contain a foam stabilizer.
Levvat 818	Apex Chemical Co.	Modified sulfated ester	Wetting	Liquid	20%	Anionic	Penetrant and leveling agent for vat and developed dyeings.
Leveltex EA	Maher Color & Chemical Co.	Blend of nonionic and cationic agents	Leveling Wetting	Liquid	25%	Cationic	For skittery dyes and metalized dyes; also for tippy wool.
Leyco Ampholyte 335	Leyda Oil & Chemical Co.	Fatty betaine	Detergent	Liquid	60%	Amphoteric	Detergent for strong caustic and acid solutions.
Leyco 153	Leyda Oil & Chemical Co.	Blended alkyl phosphate	Wetting	Liquid		Anionic	Metal wetting agent particularly for cutting fluids.
Leyco 159-B	Leyda Oil & Chemical Co.	Blended alkyl phosphate	Emulsifier	Liquid		Anionic	Emulsifier principally for cutting fluids; rust inhibitor.
Leyco 170	Leyda Oil & Chemical Co.	Blended alkyl phosphate	Emulsifier	Liquid		Anionic	Emulsifier for radiator soluble oils; rust inhibitor.
Leyco Fos 88	Leyda Oil & Chemical Co.	Alkyl phosphate	Detergent Wetting	Liquid	88%	Anionic	Detergent and penetrant for industrial and institutional cleaners.
Lignosulfonate, Ca	Bell Chemical Co. International Paper Co. New York & Pennsylvania Co.	As in name	Dispersant	Powder	100%	Anionic	Used as a binder, soil stabilizer, etc.
Lipal 4LA 7LA 12LA	E. F. Drew & Co.	Ethoxylated lauryl alcohol	Emulsifier Dispersant	Liquid	100%	Nonionic	Series of solubilizing agents for perfume and bath oils.
Lipal 6L	E. F. Drew & Co.	Polyethylene glycol fatty ester	Wetting Emulsifier Dispersant	Liquid	100%	Nonionic	Wetting agent, antigelation agent for starch pastes and "suspensions"; emulsifier and dispersing agent for waxes, perfume oils and all types of oil-in-water emulsions.
Lipal 15 CSA	E. F. Drew & Co.	Ethoxylated cetyl stearyl alcohol	Emulsifier	Paste	100%	Nonionic	Forms clear stable gels in concentrations above 30%
Lipal 30W	E. F. Drew & Co.	Purified polyoxyethylene fatty ester	Emulsifier	Liquid	100%	Nonionic	Emulsifier for mineral oils.
Lipal 5S 39S	E. F. Drew & Co.	Ethoxylated stearic acid	Emulsifier Dispersant	Paste	100%	Nonionic	Water dispersible textile fiber lubricants, emulsifiers and anti-agglomerants.
Lissapol D	Imperial Chemical Industries Ltd.	Cetyl/oleyl sodium sulphate	Detergent	Paste Powder		Anionic	General purpose textile detergent.
Lissapol GLN		Nonionic mixture with dirt suspending agents	Detergent	Paste		Nonionic	General laundry detergent for all classifications, particularly effective for engineers' overalls.
Lissapol ND	Imperial Chemical Industries Ltd.	Nonyl phenol ethylene oxide condensate with a sulphated fatty alcohol	Detergent Emulsifier	Liquid		Anionic	General purpose detergent for all fibers, particularly prior to dyeing—for soaping azoics and vats and clearing Brenthol prepared material after printing.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Lissapol NX	Imperial Chemical Industries, Ltd.	Nonyl phenol ethylene oxide condensate	Detergent Wetting Emulsifier	Liquid	100%	Nonionic	Wool stock, yarn and piece detergent, wetting and dye levelling agent; detergent for cotton and synthetic fibers; laundry detergent in presence of CMC; general purpose detergent in non-textile applications; emulsifying agent for pest control products.
Lissolamine A	Imperial Chemical Industries Ltd.	Cetyltrimethylammonium bromide	Emulsifier Wetting Dispersing	Paste		Cationic	Similar uses to Fixanol C, which see.
Lorinol	Fine Organics, Inc.	Lauryl picolinium p-toluene sulfonate	Fungicide	Powder	100%	Cationic	Effective against T. interdigitale, A. niger, M. aureus.
Low Foam Condensed Spray	Colgate-Palmolive Co.	Alkyl aryl sulfonate, alkyl aryl polyether alcohol and builders	Detergent	Powder Bead		Anionic	Heavy duty low sudsing detergent for industrial use; also available in spray form of lower density.
LPM 2017	Onyx Chemical Corp.	A formulated product	Dispersant Emulsifier	Liquid	98%	Anionic	A burnishing compound for the metal industry.
Lubrol E	Imperial Chemical Industries Ltd.	Alkylphenol ethylene oxide condensate	Emulsifier Detergent Wetting	Liquid	100%	Nonionic	Emulsifier for oils and pest control compositions; detergent base.
Lubrol G		Blended product based on a nonionic ethylene oxide condensate	Emulsifier	Liquid		Nonionic	Emulsifying agent for use with paraffinic solvents for metal degreasing and emulsion cleaning generally.
Lubrol W		Fatty alcohol ethylene oxide condensate	Emulsifier	Wax	100%	Nonionic	Emulsifier for producing self-emulsifying vegetable and animal oils; leather processing.
Lubrol TW	Imperial Chemical Industries Ltd.	Mixture of nonionic surface active agents	Detergent Antistatic	Liquid		Nonionic	General scouring assistant for wool and wool blends in both woolen and worsted system processing.
Luxolene D	E. F. Drew & Co.	Sulfated glyceryl trioleate coconut oil	Lubricant	Liquid	60-62%	Nonionic	Imparts silky hand to cottons.
Makon 4, 6, 10, 14, 30	Stepan Chemical Co.	Alkyl phenoxy polyoxyethylene ethanols	Detergent Emulsifier	Liquid	100%	Nonionic	Differing in ethylene oxide content, "Makon 4" most oil soluble; "Makon 30" least.
Maprofix 2109-L	Onyx Chemical Corp.	Diethanolamine lauryl sulfate	Detergent Foamer	Liquid	35%	Anionic	General cosmetic use.
Maprofix ES	Onyx Chemical Corp.	Sodium lauryl ether sulfate	Foamer Dispersant	Liquid	30%	Anionic	For general cosmetic use; light color with high tolerance to hard water.
Maprofix NH	Onyx Chemical Corp.	Ammonium lauryl sulfate	Detergent Foamer	Liquid	30%	Anionic	High buffering capacity-pH 6.0-6.5; non-alkaline shampoos; general cosmetic use.
Maprofix Paste MM Special	Onyx Chemical Corp.		Detergent Foamer	Liquid	38%	Anionic	Same as Maprofix Paste MM. Free flowing liquid.
Maprofix TAS	Onyx Chemical Corp.	Sodium tallow alcohol sulfate	Detergent Dispersant	Paste	30%	Anionic	High temperature detergent.
Marcamid RC	Maher Color & Chemical Co.	Fatty alkanolamide	Detergent Emulsifier	Liquid	100%	Nonionic	Coconut amide for cosmetics, soluble oils, detergents, drpcleaning soaps.
Marcamine HL	Maher Color & Chemical Co.	Fatty alkanolamide	Detergent Emulsifier	Liquid	100%	Nonionic	High foaming cosmetic base.
Marcamine OO	Maher Color & Chemical Co.	Fatty alkanolamide	Detergent Emulsifier	Liquid	100%	Nonionic	Oil soluble amide for W/O emulsions, dry cleaning soaps, etc.
Marco Emulsifier ASL	Maher Color & Chemical Co.	Polyglycol fatty acid ester	Detergent Emulsifier	Paste	100%	Nonionic	Low foam, scouring, cleaning and wetting agent.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Marco Emulsifier GAC	Maher Color & Chemical Co.	Ester-amide of fatty acids complex	Detergent Emulsifier	Liquid	100%	Nonionic	Detergent and cosmetic base amide; thickener.
Marcolene WN	Maher Color & Chemical Co.	Alkyl aryl sulfonate complex	Detergent Wetting	Liquid	45%	Anionic	Fast wetting ,high efficiency scouring agent; leveling agent for metalized dyes.
Marcoquat Conc.	Maher Color & Chemical Co.	Tetra alkyl ammonium chloride	Softener	Solid	100%	Cationic	Textile softener, substantive to a wide range of fibers.
Marcosolv 3280	Maher Color & Chemical Co.	Sulfonamide complex	Detergent	Liquid	60%	Anionic	Blend of solvents and detergents for removal of basic dyes from skin.
Marcoterge CC	Maher Color & Chemical Co.	Alkylpolyaryl sulfonate	Wetting Solubilizer	Liquid	20%	Anionic	Solubilizing agent for heavy metal salts, scale, and common soil.
Marcowet NB	Maher Color & Chemical Co.	Alkylated naphthalene sulfonate	Wetting	Paste	100%	Anionic	Low foam, wetting and rewetting agent.
Marvanol AM	Marlowe-Van Loan Corp.	Alkanolamine fatty condensate	Penetrant Detergent	Liquid	100%	Nonionic	Penetrant and detergent for textile processing.
Marvanol SP	Marlowe-Van Loan Corp.	Sulfonated propyl oleate	Penetrant Wetting	Liquid	65%	Anionic	Penetrant and wetting agent for textile processing.
Maypon M	Maywood Chemical Works, Div. of Stepan Chemical Co.	Sodium salt of peptide	Leveling	Liquid	45%	Anionic	Recommended for wool and silk in wet processing.
Maypon MC			Wetting	Liquid	45%	Amphoteric	Similar to "Maypon M," except it is stable against cationic agents.
Methyltaurine 22	Antara Chemicals, division, General Aniline & Film Corp.	Sodium N-methyltaurate	Intermediate Stabilizer Solubilizer	Liquid	35-37%	Amphoteric	Chemical intermediate and stabilizer for diazonium compounds. Used to solubilize fatty acids to form surfactants. Stabilizer for dyestuffs sold as diazonium salts. Scavenger for acid gases.
Methyltaurine-55	Antara Chemicals, division, General Aniline & Film Corp.			Slurry	64-66%		
Metrosol BC	Laurel Soap Co.	Modified amine condensate	Detergent	Liquid		Anionic	Fulling and scouring assistant for woolen and blended fabrics.
Michelene 45	M. Michel and Co.	Amine fatty condensate	Detergent Softener	Paste		Cationic	Recommended for use on Orlon, Dacron, Nylon and Viscose. Promotes full "cashmere-type" hand on cloth. Non-foaming.
Michelene D-4		Sulfated fatty acid amide	Detergent	Paste		Anionic	For cleaning and scouring heavy pile fabrics, velours, chenille, mohair, etc.
Michelene LS-38M	M. Michel and Co.	Sodium lauryl sulfate	Detergent	Paste		Anionic	General purpose cleaning and wetting agent.
Michelene XO-39M	M. Michel and Co.	Alkyl aryl sulfonate	Wetting Detergent	Liquid		Anionic	General purpose cleaning and wetting agent.
Miranol JEM Conc.	Miranol Chemical Co.			Liquid			"JEM"-octoic. Use: caustic soda wetting agent, bottle washing, food peeling, etc.

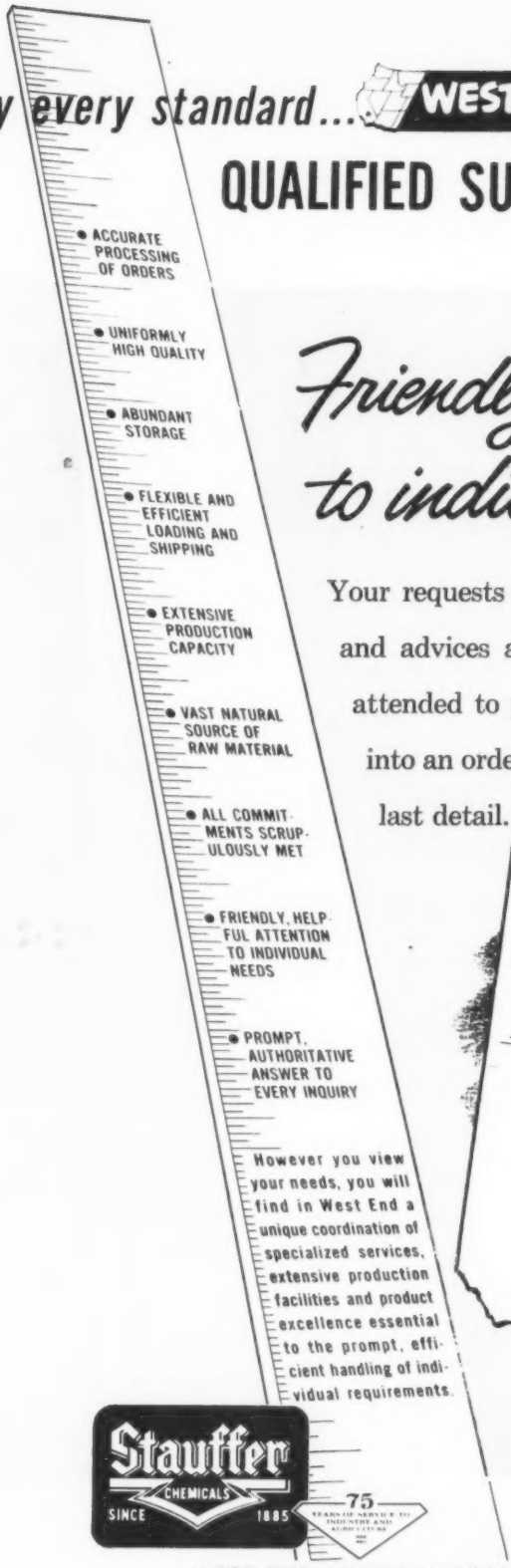
Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
"Mirapal" 3X Conc.	Chemical Developments of Canada, Ltd.		Detergent	Liquid			Industrial detergent for synthetic fabrics.
Modicol L	Nopco Chemical Co.	Polyethylene glycol fatty ester	Wetting	Liquid	100%	Nonionic	Gives wetting and viscosity control in resin and latex emulsions.
Monad SF	Colgate-Palmolive Co.	A sulfated monoglyceride of coconut oil, salt free	Detergent	Bead Powder	31% 90%	Anionic	Use; Rug cleaners, bubble bath, laundry, dishwashing etc.
Monamid 7-100 9-34 7-153 15-70 W	Mona Industries, Inc.	Coconut alkanolamides	Emulsifier	Liquid	100%	Nonionic	Group of products with specific solubilities in oil-phases such as mineral spirits, hydrocarbons, kerosene, alcohol and natural fats.
Monamine ADS-100 AC -100 1-76	Mona Industries, Inc.	Coconut alkanolamides	Detergent Emulsifier	Liquid	100%	Nonionic	Group of surfactants with increased alkali compatibility and oil solubility.
Monamine 7-70	Mona Industries, Inc.	Alkanolamide	Thickener	Liquid	100%	Nonionic	Thickener for paints, drilling muds, pigment grinding, buffing compounds and ore flotation.
Monamuls LTP	Mona Industries, Inc.		Emulsifier Wetting	Liquid	100%	Nonionic	Especially developed for emulsion type paints.
Monaquest CAI-80	Mona Industries, Inc.	Penta sodium salt of diethylenetriaminepenta acetic acid(DTPA)	Sequestrant	Liquid	57%	Anionic	Sequestrant with improved iron chelation at acid and low alkaline pHs; forms more stable complexes than EDTA, except with calcium; is more stable to oxidizing agents.
Monawet MO-70K	Mona Industries, Inc.	Potassium dioctyl sulfosuccinate	Wetting	Paste	70%	Anionic	Pharmaceutical grade of dioctyl sulfosuccinate.
Monopol Oil 48	Antara Chemicals, division, General Aniline & Film Corp.	Sulfated castor oil	Wetting Lubricant Softener	Liquid	48%*	Anionic	*(total fats) In the textile industry, used as a wetting, penetrating, and leveling assistant in the dyeing of direct, developed, sulfur, and vat colors; as a pasting agent for all dyestuffs except basic colors; as a fiber softener and lubricant; in the leather industry, a fat liquoring assistant and a lubricant for hide fibers.
Moropon AS-3	Mortex Chemical Products, Inc.	Fatty amide condensate	Detergent	Liquid	100%	Nonionic	Alkali stable detergent for formulating cleaning compounds.
Morowet A-24	Mortex Chemical Products, Inc.	Higher alcohol ester of sodium sulfosuccinic acid	Emulsifier	Paste	70%	Anionic	An acid stable emulsifier for fats and waxes.
Mr. Clean (retail)	Procter & Gamble Co.		Detergent	Liquid			All purpose household surface cleaner.
Myrj 45 51 53 59	Atlas Powder Co.	Polyoxyethylene stearates	Emulsifier	Solid	100%	Nonionic	A series of general-purpose oil-in-water emulsifiers ranging in ethylene oxide content from 8 to 100 moles per mole of stearic acid; used in food, cosmetic and pharmaceutical preparations.
Myvatex 8-20	Distillation Products Industries, Division of Eastman Kodak Co.	Distilled monoglyceride	Emulsifier	Bead	80%	Nonionic	Type 8-20—distilled monoglyceride blended with hydrogenated vegetable oil.
Myverol Type 18-07 18-71 18-40	Distillation Products Industries, Division of Eastman Kodak Co.	Monoglycerides purified by molecular distillation	Emulsifier	Solid	90%	Nonionic	Food emulsifiers produced from various edible vegetable oils e.g. type 18-40 from lard; Type 18-71 from fatty acids not offered for food use.
Naccolene A Conc.	Allied Chemical Corp., National Aniline Division	Modified petroleum sulfonate	Detergent Emulsifier	Paste		Anionic	Emulsifying agent for use in organic liquids.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Nacconol SZA	Allied Chemical Corp., National Aniline Division	Alkyl aryl sulphonic acid	Detergent Intermediate,	Liquid	88-90%	Anionic	The acid is neutralized with various alkalis to produce detergent products of high solubility and medium viscosity.
Nalco L-710	Nalco Chemical Co.	Polyoxyethylated mod. molecular weight phenolic resin	Emulsifier Dispersant	Liquid	100%	Nonionic	Emulsifier for insecticides, moderately soluble in water.
Nalco L-1218-1	Nalco Chemical Co.	Polyoxyethylated vegetable oil	Emulsifier Dispersant	Liquid	100%	Nonionic	Insoluble in water, soluble in organic solvents, emulsifier for insecticide, waxes, oils.
Nalco L-357	Nalco Chemical Co.	Polyoxyethylated vegetable oil	Emulsifier Dispersant Detergent	Liquid	100%	Nonionic	Emulsifying agents for waxes, oils, insecticides; pigment dispersant; textile lubricant.
Nalco L-1127	Nalco Chemical Co.	Polyoxyethylated vegetable oil	Emulsifier Dispersant Detergent	Liquid	100%	Nonionic	As above; less oil soluble than L-357.
Nalco L-1117	Nalco Chemical Co.	Polyethylene glycol stearate	Emulsifier	Liquid	100%	Nonionic	Water dispersible for preparing oil-in-water emulsions.
Nalco L-1318	Nalco Chemical Co.	Moderately high molecular weight polyethylated resinous primary aromatic alcohol	Emulsifier Detergent	Liquid	100%	Nonionic	Water soluble; emulsifier for insecticide, low foaming detergent.
Nansa HS	Marchon Products, Ltd.	Dodecyl benzyl sodium sulfonate	Detergent	Powder	80%	Anionic	General purpose detergent.
Neo-Germitol	Fine Organics, Inc.	A special distribution of higher, alkyl dimethyl benzyl ammonium chloride	Germicide	Liquid	50%	Cationic	Extremely effective in hard water of 600 ppm hardness, phenol coefficient S. aureu 400-450 S. typhosa 300-350.
Neopone NP-10	Ultra Chemical Works, Inc.	Nonylphenol ethyleneoxide condensate	Detergent	Liquid	100%	Nonionic	Used in textile scouring, metal cleaning etc.
Neosapon AN-D	Fiber Chemical Corp.		Penetrant	Liquid		Anionic	Textile penetrant.
CF-11		Quaternary ammonium salt	Emulsifier	Liquid	100%	Cationic	A cationic emulsifier for fat liquoring.
NN Conc.			Emulsifier	Liquid	100%	Nonionic	Textile emulsifier.
Neutronyx 605	Onyx Chemical Corp.	Iso-octyl phenol polygycol ether containing 9.5 moles ethylene oxide	Wetting Emulsifier Dispersant	Liquid	100%	Nonionic	Household detergent; dishwashing, fine fabrics, woolens, etc.; metal cleaning and degreasing; industrial cleaning; detergent-sanitizers; lime dispersant; dispersing, emulsifying agent for insecticidal and herbicidal sprays; silicone emulsifier. Acid, alkali, and hard water stable.
Neutronyx 622	Onyx Chemical Corp.	Alkylphenol polyglycol ether containing 4 moles ethylene oxide	Emulsifier	Liquid	100%	Nonionic	Oil-soluble. Emulsification of mineral oils, chlorinated hydrocarbons, and agricultural concentrates; emulsifier in cosmetic oils and creams.
Neutronyx 626	Onyx Chemical Corp.	Alkylphenol polyglycol ether containing 6 moles ethylene oxide	Emulsifier	Liquid	100%	Nonionic	As above.
Neutronyx 840	Onyx Chemical Corp.	Alkylphenol polyglycol ether containing 15 moles ethylene oxide	Detergent Wetting Emulsifier Dispersant	Liquid	100%	Nonionic	Emulsification of vegetable and essential oils.
Neutronyx 656	Onyx Chemical Corp.	Alkylphenol polyglycol ether containing 11 moles ethylene oxide	Detergent Wetting Emulsifier Dispersant	Liquid	100%	Nonionic	Household detergent; dishwashing, fine fabrics, woolens, etc.; metal cleaning and degreasing; industrial cleaning; lime dispersant; dispersing and emulsifying agent for insecticidal and herbicidal sprays. Silicone emulsifier. Acid, alkali, and hard water stable. Detergent-sanitizers.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Neutronyx 675	Onyx Chemical Corp.	Alkylphenol polyglycol ether containing 30 moles ethylene oxide	Detergent Wetting Emulsifier Dispersant	Solid	100%	Nonionic	Emulsification of vegetable and essential oils. Detergent-sanitizer; stable iodophor concentrate.
Neutronyx PX	Onyx Chemical Corp.	A nonionic base on a phosphate carrier	Detergent Emulsifier	Solid	20%	Nonionic	For use in powdered iodophor concentrates as industrial cleaners.
Neutronyx S-60	Onyx Chemical Corp.	Ammonium salt of a sulfated alkyl phenol polyglycol ether	Detergent Foamer	Liquid	60%	Anionic	High foaming dishwashing agent; used for car wash, rug shampoos; glass cleaner.
Neutronyx S-30	Onyx Chemical Corp.	Sodium salt of a sulfated alkyl phenol polyglycol ether	Detergent Foamer	Liquid	30%	Anionic	High foaming and sudsing agent; dispersing properties. More stable under alkaline conditions than Neutronyx S-60.
Ninex 26	Stepan Chemical Co.	Amide sulfonate concentrate	Detergent	Liquid	96%	Anionic	Concentrate for liquid dish wash, car wash, etc.
Ninol 1301	Stepan Chemical Co.	A fatty acid alkanolamide	Detergent	Paste	100%	Nonionic	Same as above plus quaternary compatible.
Nitrene 205	Textilana Corp.	Lauryl alkanolamide	Detergent	Paste	100%	Nonionic	All purpose base, shampoos, liquid detergent foam stabilizer.
Nitrene C	Textilana Corp.	Fatty amine condensate	Detergent	Liquid	100%	Nonionic	Wool scour, thickener, softener, hard surfaces.
Nitrene C Extra	Textilana Corp.	High active amine condensate	Detergent	Liquid	100%	Nonionic	Same as above.
Nitrene CT	Textilana Corp.	Fatty amine condensate	Detergent	Paste	100%	Nonionic	Low foamer, textile auxiliary.
Nitrene L-96	Textilana Corp.	High activity lauroyl alkanolamide	Foam stabilizer	Wax	100%	Nonionic	Thickener, lime dispersant in household detergents.
Nitrene OE	Textilana Corp.	Fatty acid ester amide complex	Emulsifier	Liquid	100%	Nonionic	Dispersant, low foamer, Ag base.
Nonic 303	Pennsalt Chemicals Corp.	Polyethylene glycol alkylphenyl ether	Detergent	Liquid	100%	Nonionic	High stability in presence of acids and oxidizing agents; used in processing textile fibers and finished goods; industrial, institutional, household cleaners, etc.
Nonic 309		Polyethylene glycol alkylphenyl ether	Wetting Emulsifier	Liquid	100%	Nonionic	
Nonionic E-4 E-5 E-6 E-7 E-10 E-11 E-12 E-15	Hodag Chemical Corp.	Polyoxyethylene alkyl aryl ethers	Detergent	Liquid	100%	Nonionic	Group of nonionic detergent and wetting agents for use in cosmetics, insecticide and other formulations. "E-15" is a paste.
Nopco 1772-C	Nopco Chemical Co.	Ethylene oxide condensate of a fatty amine	Wetting	Liquid	100%	Cationic	Bonding agent for asphalt and stone.
Nopcosant	Nopco Chemical Co.	Sulfonated naphthalene	Dispersant	Powder	95%	Anionic	Pigment dispersing.
Nullapon							Name changed to "Chellox," which see.
Oil 40	Apex Chemical Co.	Sulfated vegetable oil	Wetting	Liquid	20%	Anionic	Textiles; lubricates and penetrates as dyeing assistant.
Onyx Defoaming Oil	Onyx Chemical Corp.	Sulfonated oil base	Foam Inhibitor	Liquid	65%	Anionic	Defoamer in the manufacture of adhesives.
Onyx Emulsifier 1316	Onyx Chemical Corp.	Nonionic combination	Emulsifier	Liquid	100%	Nonionic	Agricultural emulsifier for dormant sprays.
Onyxide 603	Onyx Chemical Corp.	Alkenyl dimethyl ethyl ammonium bromide	Algaecide	Paste	75%	Cationic	Industrial grade.
Onyx-ol 12	Onyx Chemical Corp.	Mixed fatty acid monoethanolamine condensate	Emulsifier Thickener	Solid	97%	Nonionic	Cosmetic applications.
Onyx-ol 42	Onyx Chemical Corp.	Stearic acid diethanolamine condensate	Opacifier Thickener	Solid	97%	Nonionic	Cosmetic applications requiring opacifying, pearlescence, and thickening, particularly liquid creme shampoos.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Onyx-ol 2062	Onyx Chemical Corp.	Formulated diethanolamine condensate	Detergent Emulsifier Thickener	Liquid	100%	Nonionic	Industrial detergent, floor cleaners; soluble in presence of alkalies.
Onyx-ol WW	Onyx Chemical Corp.	Mixed fatty acid diethanolamine condensate	Emulsifier Detergent Thickener	Liquid	96%	Nonionic	Auxiliary emulsifying agent; metal cleaners; self-emulsifying solvents.
Orthomul W-1830	Jacques Wolf & Co., div. of Nopco Chemical Co.	Neutralized fatty acids (soap)	Emulsifier	Liquid	100%	Anionic	Emulsifier for orthodichlorobenzene disinfectants and pesticides.
Orzan A	Crown Zellerbach Corp.	Ammonium lignin sulfonate	Dispersant	Powder	100%	Anionic	An inexpensive yet efficient dispersant used for gypsum board, cement, etc., also a binder.
Orzan S	Crown Zellerbach Corp.	Sodium lignin sulfonate	Dispersant	Powder	100%	Anionic	Used for boiler water treatment and as an emulsion stabilizer.
Palasol TA	Woonsocket Color & Chemical Co.	Fatty amine complex	Detergent Emulsifier	Liquid			For textile padding operations.
Paraffin Detergent	Security Chemicals	Aromatic solvent detergent	Detergent	Liquid	100%	Nonionic	Used in petroleum production to disperse unsaturated hydrocarbons from metal.
Parnol 40	Jacques Wolf & Co.	Dodecylbenzene sodium sulfonate	Detergent	Bead	40%	Anionic	A general purpose detergent.
Peglo 9 Peglo 12 Peglo 15	Pennsylvania Refining Co.	Polyethylene glycol ester	Emulsifier	Liquid	100%	Nonionic	A line of polyethylene glycol fatty acid esters to provide a range of water/oil emulsifiers.
Penecon G G Conc.	G. H. Conant Co.	Modified sodium alkyl aryl sulfonate	Detergent Foamer	Liquid Liquid	40% 60%	Anionic Anionic	Textile penetrant, detergent and leveling agent with high foam value.
Penetrant DH-35	Apex Chemical Co.	Alkyl aryl sulfonate	Wetting Dispersant	Liquid	20%	Anionic	Textile scouring and penetration.
Pene-Tri-A-Nol 60	Scholler Bros., Inc.	Dioctyl sodium sulfo succinate	Emulsifier Wetting	Liquid	60%	Anionic	General purpose wetting and re-wetting agent.
Pene-Tri-A-Nol CL	Scholler Bros., Inc.	Compounded dioctyl sodium sulfo succinate	Wetting	Liquid	20%	Anionic	Textile wetting agent, scouring assistant.
Pene-Tri-A-Nol F	Scholler Bros., Inc.		Detergent Wetting Penetrant	Liquid	28%	Anionic	Textile wetting, scouring and penetrating agent, effective dyeing assistant.
Pentralene	Scher Bros.	Modified cresylic soap	Detergent Wetting	Gel		Anionic	Wetting, size and graphite removal, and scouring of nylon taffeta or sheer on Burlington machine.
Pepcol C-130	Peck's Products Co.	Fatty acid alkanolamide	Detergent Emulsifier	Liquid	100%	Nonionic	Detergent base for liquid formulations using phosphate type builders.
Peregal LB	Antara Chemicals, division, General Aniline & Film Corp.	Mixture of nonionic surfactants	Wetting	Liquid		Nonionic	Dyeing assistant to minimize barr effect produced in dyeing textured nylon knit goods with acid dyes; permits initiation of dyeing at relatively low temperatures, giving improved flexibility in application of acid dyes on textured nylon.
Peregal O	Antara Chemicals, division, General Aniline & Film Corp.	Polyoxyethylated fatty alcohol	Wetting	Liquid		Nonionic	Dyeing assistant for use with basic and direct colors; assistant for dyeing, leveling, and stripping of vat dyes.
Peregal OK	Antara Chemicals, division, General Aniline & Film Corp.	Methyl polyethanol quaternary amine	Wetting Solubilizer	Liquid		Cationic	Retarding, leveling, and stripping agent for vat dyestuffs; dyeing assistant for vat blues.

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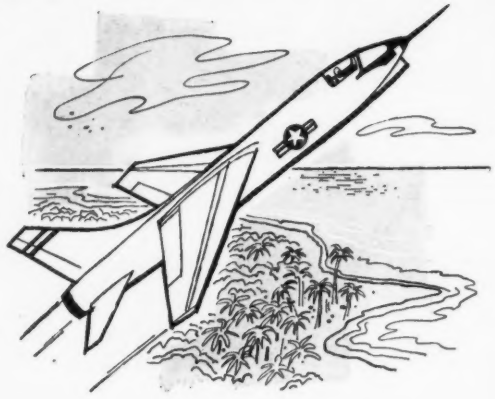
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Color 5¼" Lovibond Red	1.0 max.	1 max.
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Color Gardner 1933		2 max.
Unsaponifiable	0.75% max.	1.0% max.
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Acid Value	203 – 206	200 – 205
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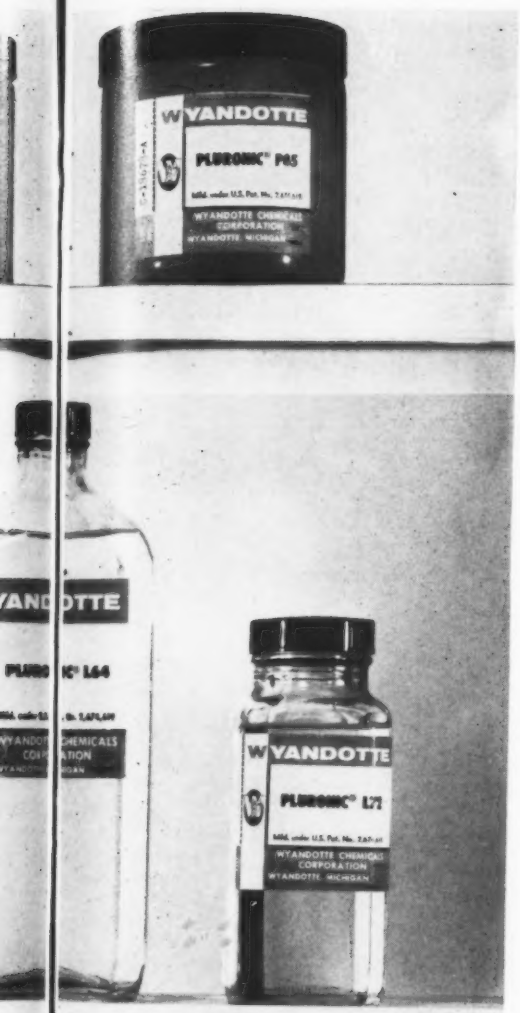
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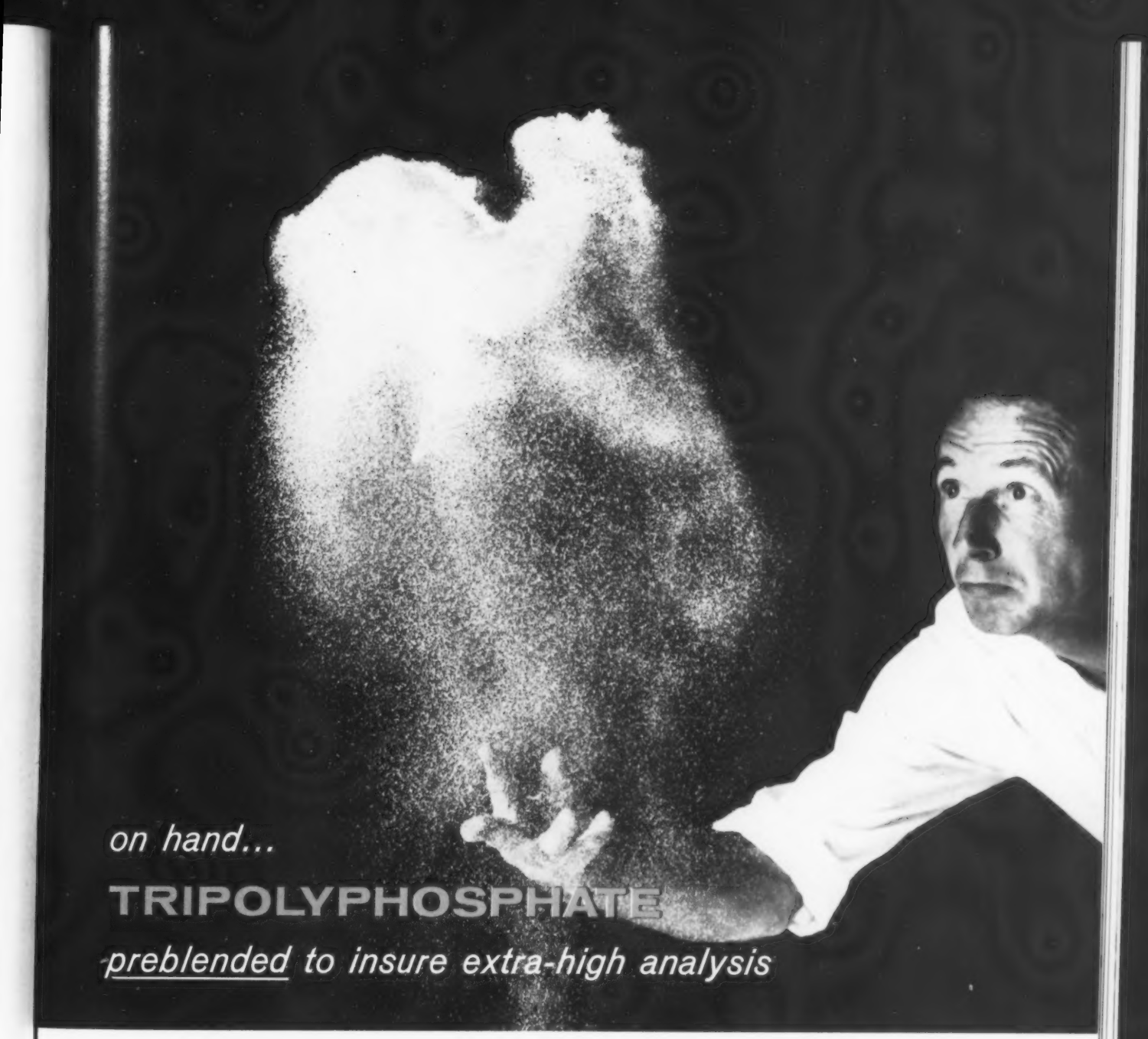
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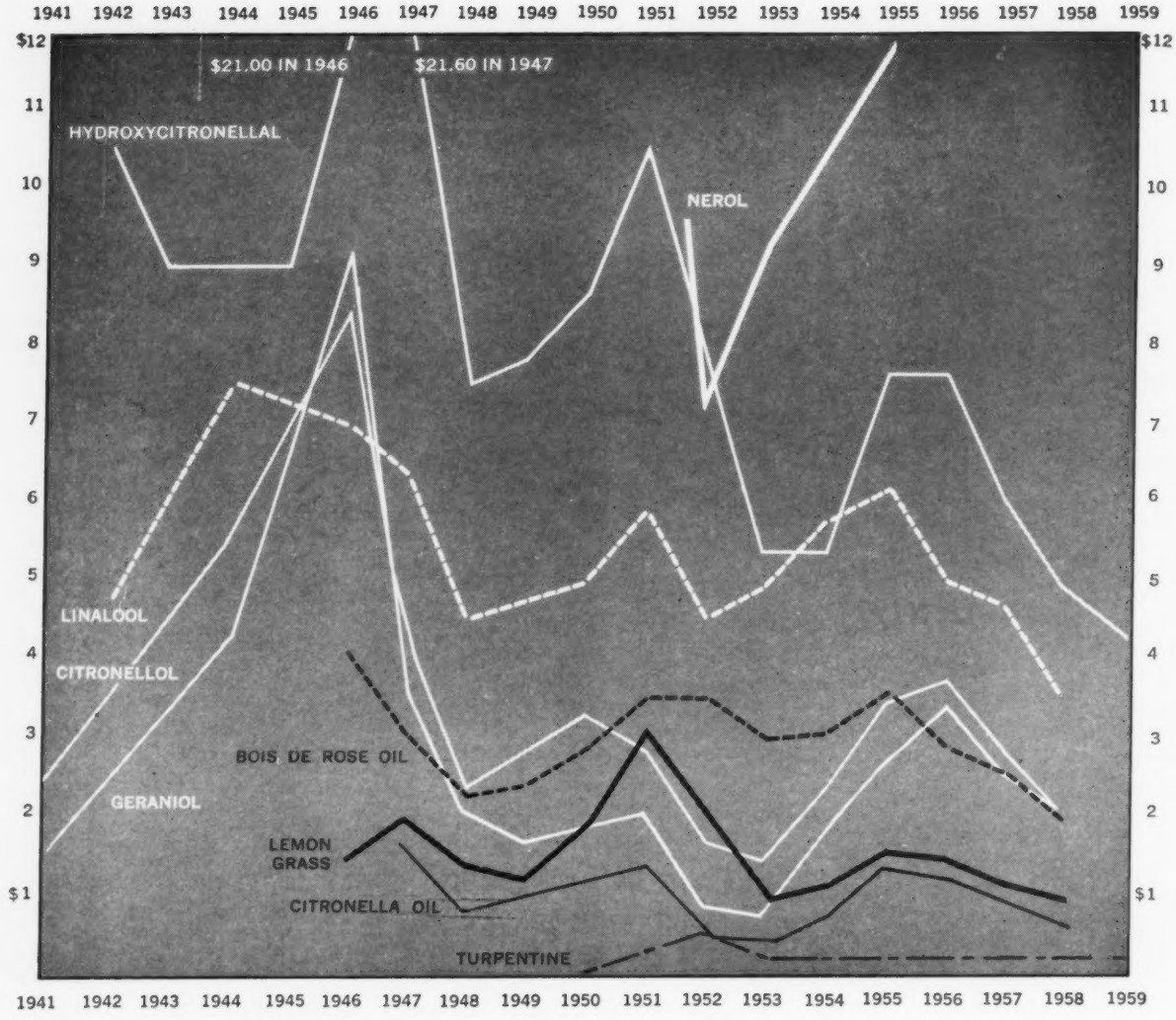
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Potential use of Aerosol 22 as an additive in oven cleaners merits consideration. It has high rinsibility and viscosity lowering properties—it increases penetration and creates no gel structure to inhibit cleaning action. Possibilities of Aerosol 22 in auto cleaners are also interesting—due to non-rewetting properties, ability to remove dirt from hard surfaces and ease of rinsing.

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OTHER CYANAMID SURFACTANTS OF USE TO THE SOAP AND DETERGENT INDUSTRIES: AEROSOL® OT. One of the most powerful wetting agents and surface-tension depressants available. For use in dry cleaning, wettable scouring powders, and glass cleaning solutions. AEROSOL® OS. A 75% active powder of high alkali stability. For use in scouring powders and heavy industrial cleaners. AEROSOL® 18. A 35% waxy paste for use in heavy industrial cleaners.

AMERICAN CYANAMID COMPANY

PROCESS CHEMICALS DEPARTMENT • 30 Rockefeller Plaza, New York 20, N.Y.

SCSP-12

American Cyanamid Company
Process Chemicals Department
30 Rockefeller Plaza
New York 20, N. Y.

Please send me free technical booklet,
AEROSOL 22 SURFACE ACTIVE AGENT

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TAKE A LOOK AT YOUR FORMULATION...
WILL IT MEET THE HEAVY TRAFFIC TEST?

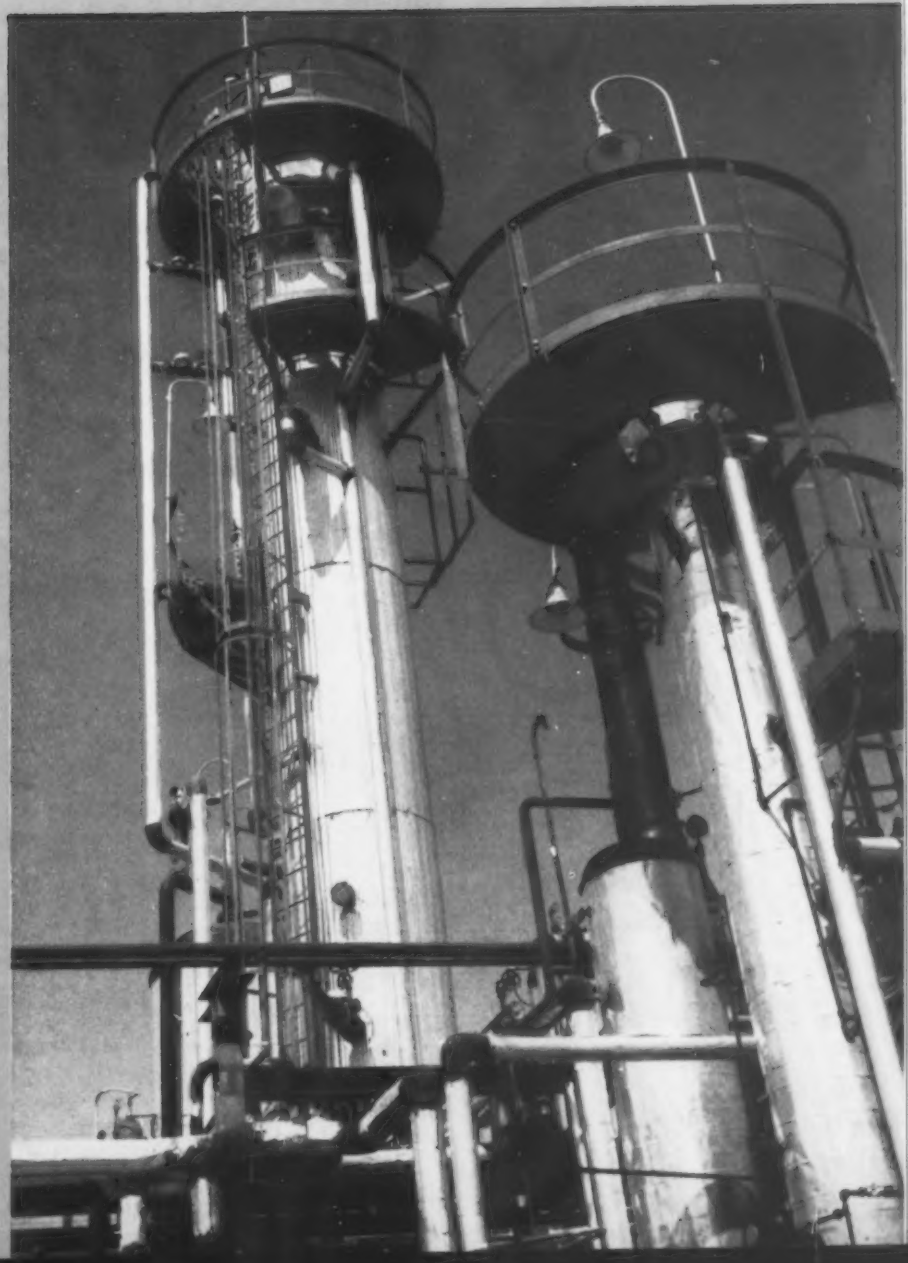
U-3101 UBATOL is a tough, durable, acrylate polymer with exceptional film clarity. Actual wear tests show that floor polishes based on **U-3101** have a marked resistance to black heel marking. In addition, this milky white polymer won't yellow . . . won't powder. All factors considered, polishes made with **U-3101 UBATOL** keep their "just waxed" look longer. Make the comparison . . . see the difference.

For samples and technical data, write:

UBS CHEMICAL COMPANY
A DIVISION OF A. E. STALEY MANUFACTURING COMPANY
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Chemical Specialties . . .

- Aerosols
- Automotive products
- Bleaches
- Bowl cleaners
- Carpet cleaners
- Cleaning fluids
- Deodorants
- Disinfectants
- Floor waxes and other floor products
- Glass cleaners
- Household ammonia
- Insecticides
- Mildew compounds
- Moth specialties
- Polishes
- Repellents
- Rodenticides
- Sanitizers
- Skin protectants
- Stock sprays
- Sweeping compounds
- Wax strippers
- Weed chemicals and other Chemical Specialties



Propane deasphalting unit at recently modernized and expanded plant of Western Petrochemical Corp. in Chanute, Kans. "Thermofor" continuous percolation bleaching unit, first of its kind used for wax production, provides continuous adsorption bleaching of wax products. Process results in complete, uniform decolorization of wax, preventing discoloration or yellowing of end product.

ROHM & HAAS COMPANY

WASHINGTON SQUARE  PHILADELPHIA 5, PA.

Dear Sir:

The following statement by Rohm & Haas scientists is of importance to you:

> "The repetitive application of oil based sprays containing Lethane 384 in accordance with current recommendations does not result in Lethane residues in either meat or milk when analyzed using a procedure sensitive to 0.01 ppm."

These conclusions were reached only after careful and extensive studies with Lethane 384 dairy cattle sprays. These tests verified that residues of Lethane 384 *do not* appear in the milk or tissues of animals when spray formulations are used as directed to control flies. The studies were made by Rohm & Haas to bring the 30-year safe record of Lethane 384 up-to-date using modern, precise analytical procedures.

On the basis of these tests, Lethane 384 has now met the requirements of the Miller Bill for use in oil based dairy and livestock sprays. Your customers can use sprays containing Lethane 384 for effective fly control with full assurance that Lethane 384 will not impair the quality of the milk.

An article detailing the procedures and results of the tests has been published in the August, 1960 issue of "Soap and Chemical Specialties". Reprints and further information may be obtained by mailing the coupon below.

Cordially,

ROHM & HAAS COMPANY
Agricultural & Sanitary
Chemicals Department

CARLOS KAMPMEIER

ROHM & HAAS COMPANY
c/o Sanitary Chemicals
Philadelphia 5, Pa.

Please send us Reprints of article, "Analysis of Milk From Cows Sprayed with Lethane 384". ☐ Specimen labels for dairy cattle sprays formulated with Lethane 384. ☐

NAME_____

COMPANY_____

ADDRESS_____

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Controlled tests confirm the 30-year safe record of LETHANE® 384 in dairy cattle sprays

AN OPEN LETTER

TO CATTLE SPRAY FORMULATORS

Annual Meeting . . .

AT the 47th annual meeting of the Chemical Specialties Manufacturers Association being held in Hollywood, Florida, December 3-9, one thousand representatives of the chemical specialties industry are attending, the largest gathering of chemical specialty manufacturers in history. Producers, large and small, from all parts of the country, of aerosol products, floor maintenance products, detergent and soap specialties, polishes, automotive chemicals, deodorants, disinfectants, insecticides, and other chemical specialties are represented.

Since the founding of CSMA in 1914, it has drawn its membership from all segments of the field from the largest to the smallest manufacturers. Leaders in the industry have been prominent in its affairs. It has offered an open forum for the exchange of ideas and for valuable contacts to its members.

Membership in CSMA could have advantages for your company. It's worth looking into.

A. A. MULLIKEN, *Secretary*



Chemical Specialties Manufacturers Association, Inc.

50 East 41st Street *George W. Fiero, President* **New York 17, N. Y.**

H. W. Hamilton, Executive Vice-President *Charles E. Beach, 1st Vice Pres.*
Charles E. Allderdice, Jr., 2nd Vice Pres. *Frederick K. Lodes, Treasurer*
A. A. Mulliken, Secretary

FOR UP-TO-DATE CLEANING EFFICIENCY...



ADD PFIZER GLUCONATES TO YOUR CAUSTIC FORMULATIONS

It's true! Caustic cleaning solutions for the following jobs are more effective with Pfizer Gluconates:

BOTTLE WASHING—The inclusion of Pfizer Gluconates in your formula gives your bottling customer a washing compound that gets bottles sparkling clean—free of haze and rust spots that could mar their appearance. Pfizer Gluconates also provide for more efficient aluminum label removal and prevent the development of scale on equipment.

RUST REMOVAL—Outstanding caustic rust removal compounds are possible with Pfizer Gluconates. Besides dissolving rust efficiently, the presence of gluconates will retard after-rust and prolong the life of the bath. Also, a small amount of gluconate added to standard alkaline cleaning compounds helps in the removal of light rust films.

ALUMINUM ETCHING—Pfizer Gluconates in aluminum etching compounds prevent the formation of hard, adherent scale. Efficient and economical, too, because you use very little gluconate in the compounds, yet assure an even, uniform etch.

STRIPPING PAINT FROM STEEL—Pfizer Gluconates improve the efficiency of caustic paint-stripping compounds. They increase the rate of paint film removal and permit free rinsing of the paint-stripped metal. Pfizer Gluconates eliminate the usual after-film of iron oxide.

Pfizer Gluconates have a proven record of stability in caustic compounds, both in storage and in use. Be sure your caustic formulation line is complete. Write to Pfizer for technical data and use-level information on sodium gluconate and gluconic acid.

Please send me Technical Bulletin 102, "Pfizer Products for Chemical Cleaning."

NAME_____

TITLE_____

COMPANY_____

ADDRESS_____

CITY_____ STATE_____

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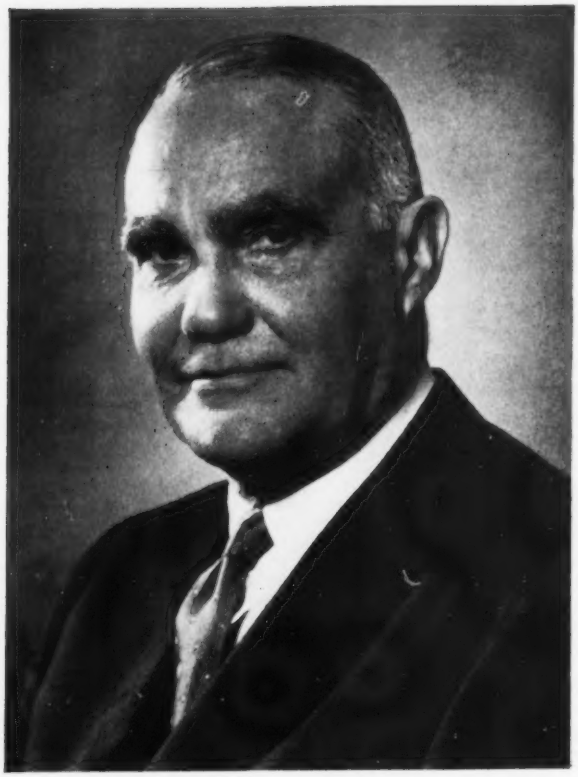
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"...while we are waiting for more miracles..."



ALBERT E. FORSTER

"For the first time in history we can envision a world agriculture free from insect destruction, farm produce no longer ruined by disease, and fertile jungle land cleared of unproductive growth. Chemistry has made this vision possible, but there is much hard work ahead before it becomes a reality . . .

"Less dramatic than new 'miracle' products and procedures, and quite possibly more important, is the need to utilize fully the knowledge of chemicals now available to the farmer . . .

"I acknowledge that this is a slow, painstaking way of solving the problems that face us, but it is the type of thing we can do today, with the excellent materials we now have, *while we are waiting for more miracles* to emerge from the test tubes . . .

"For all of us involved in agriculture there is a tremendous challenge ahead. It is the kind of challenge that must be met and mastered. What we do in achieving mastery of the problems facing us will in large measure contribute to the continued development of a world of peace and plenty for all. I am certain we will achieve success."

A. E. Forster

President and Chairman of the Board,
Hercules Powder Company

(from an address before the Societe de Chimie Industrielle, Barcelona, Spain, October 26, 1960)

AGRICULTURAL CHEMICALS DIVISION · ***HERCULES POWDER COMPANY***
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Hercules produces toxaphene, Delnav®, Thanite®, Metadelphene®, and other chemical materials for the pesticide industry.



WAX FACTS

EXTRA

NEWS OF INTEREST TO WAX USERS—
DEVELOPMENTS IN THE FIELD OF SYNTHETICS

ANNOUNCING

EFTON® WHITE HARD-WAXES

The trend in polishes today is in the direction of better color, improved anti-slip, higher gloss, greater raw material economy! All these factors are taken into consideration in the new, American-made EFTON family of ***white*** emulsifiable hard-waxes.

The EFTONS are made by an exclusive oxygenation process from special synthetic hydrocarbons. No catalyst residues or ash are present in the EFTONS which could interfere with emulsion stability and gloss. Three types of EFTON are now available, differing from one another in their acid and saponification values to suit every emulsion need.

EFTON TEST DATA

	EFTON U	EFTON UC	EFTON R
Melting Pt. ASMT °F	abt. 215	abt. 215	abt. 215
Acid Value	20-25	25-30	30-35
Saponification Value	35-45	40-50	55-65
Color	White	White	White
Penetration (100g, 5sec, 77F)	2-4	3-5	5-7

Formula Considerations for the New EFTONS

The EFTON waxes are compatible with all natural and synthetic waxes and resins used in the polish industry.

They are freely interchangeable in most emulsion formulations with oxidized waxes of the petroleum microcrystalline type having similar acid values. Generally the use of EFTON results in more reliable emulsification, finer particle size, reduction of dirt-pickup. Combined with Carnauba or Duroxon waxes, EFTON plasticizes the polish film and enhances non-skid properties. Combined with emulsifiable polyethylene for polymer floor finishes, EFTON reduces melt viscosity, improves process reliability, hardens the polish film and makes it more resistant to scratching, scuffing, heelmarking and powdering.

EFTON is soluble hot in hydrocarbon solvents and oils, insoluble in water, glycols and alcohols. With alkalis, the EFTONS form soaps which are effective emulsifiers for paraffinic hydrocarbons such as unoxidized microcrystalline, Fischer-Tropsch and paraffin waxes. EFTON can also be sulfonated or ethoxylated to produce surface active agents.

In Every Case EFTON gives your products lighter color and color stability.

EFTON White Hard-Wax is Competitively priced with Emulsifiable Polyethylene and Oxidized Petroleum Wax!

C/L, T/L 23,000# min. 35¢/lb. • LCL,LTL 1,000# min. 37¢/lb. fob Newark, N. J.

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Please furnish the following:

50-lb. Trial Carton @ $19.50 ea. (Please fill in number of cartons wanted)

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☐ Check enclosed. Freight ppd. ☐ Please bill us. Freight coll. ☐ COD. Freight coll.

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SILICONE NEWS from Dow Corning

The Golden Touch!



That's What Silicones Add To Your Polish Sales and Profits

Dow Corning Silicones make polishes easier to use — faster to apply . . . quicker to shine-up . . . give a richer, deeper gloss. And because silicones resist weathering and oxidation, they just naturally last longer, provide greater protection.

These qualities mean polishes that please the consumer — a better product image for you. That's why you're wise to formulate your polish with Dow Corning Silicones . . . to feature "*Silicones*" on labels and in your advertising. When you do this you're developing brand loyalty and, at the same time, putting the extra touch of gold into your polish profits.

Dow Corning is a company formed specifically to concentrate its research in the field of silicone chemistry . . . to develop and produce these new materials to serve industry. That's why our chemists constantly work to provide polish manufacturers with the latest technical data and information on the use of silicones in polishes . . . to help you improve existing products or develop new polishes for the market.

Furthermore, conveniently located warehouses and prompt shipment of your silicone needs means Dow Corning is in the best position to help you maintain efficient inventory control.



Put yourself in her place and you'll formulate your polish with silicones.



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Dow Corning CORPORATION
MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS LOS ANGELES NEW YORK WASHINGTON, D. C.

CSMA's 47th Annual Meeting...

Over 1100 expected for four day meeting of Chemical Specialties Manufacturers Assn. under way at Hollywood Beach (Fla.) Hotel.

ALTHOUGH the 47th annual meeting of the Chemical Specialties Manufacturers Assn. is being held in a tropical setting at the Hollywood Beach Hotel, Hollywood, Fla., Dec. 5-8, nevertheless a heavy working schedule has been planned. The program for the second CSMA convention to be held in the past four years at Hollywood Beach calls for intensive divisional meetings and general sessions running from 9:00 a.m. to 1:00 p.m. Some committees will meet in afternoon sessions. All six of the divisions of which CSMA is composed have scheduled full programs of individual papers and panel discussions for the 47th annual meeting.

The meeting opened formally with a general session Monday morning, Dec. 5. A highlight of this session was the election of officers for the coming year. Charles E. Beach of John C. Stalfort & Sons, Inc., Baltimore contract and private label packaging firm, was elected president for 1961. Mr. Beach, who served as first vice-president this past year, succeeds Dr. George W. Fiero of Esso Standard Division of Humble Oil & Refining Co., New York, 1960 CSMA president. Moving up to first vice-president is Charles A. Allderdice, Bell Co., Chicago. He was second vice-president this year, a post in which he is replaced by Donald J. Templeton, Stanley Home Products, Inc., Easthampton, Mass.

Chairmen of divisional executive board elected at the Dec. 5th session include: Aerosol, George Barr, G. Barr & Co., Chicago; Automotive, A. E. Tongue, Olin Mathieson Chemical Corp., Baltimore; Detergent and Cleaning Compounds, L. D. Berger, Jr., Union Carbide Chemicals Co., New York; Disinfectant and Sanitizers, Claude J. D'Angio, Airkem, Inc., New York; Insecticide, Mark Hill, Gulf Oil Corp., Philadelphia, and Waxes and Floor Finishes, Earl Brenn, Huntington Laboratories, Inc., Huntington, Ind.

The general session was opened with an address of welcome by Frank L. Holland, manager, Florida Agricultural Research Institute, Winter Haven, Fla. He was followed by Dr. George W. Fiero, CSMA president, who presented his address as president.

The long awaited results of the 1960 aerosol package contest were announced by Joseph J. Tomlinson, chairman of the package award committee. Mr. Tomlinson, who is with General Chemical Division of Allied Chemical Corp., New York, presented plaques to winners in 15 product categories and a best of show award. Photographs of all winning packages appear on the front cover and on pages 192-193 of this issue of *Soap and Chemical Specialties*.

A panel discussion on the Federal Hazardous Substances Labeling Act, presided over by R. L. Ackerly of Cummings, Sellers, Reeves & Conner, CSMA, Washington, D. C., counsel wound up the general session, Dec. 5. The three panelists were Dr. Emil G. Klarmann, Lehn & Fink Products Corp., New York; William W. Goodrich, Food and Drug Division of the U. S. Department of Health, Education, and Welfare, Washington, D. C.; and George T. Scriba, Union Carbide Chemicals Co., New York.

Committee meetings are scheduled to be held Monday afternoon, Dec. 5, following which will be a cocktail party, dinner and entertainment.

Three divisions will meet concurrently on Tuesday morning, Dec. 6: Detergent and Cleaning Compounds, Insecticide, and Waxes and Floor Finishes.

A symposium on packaging of household chemical specialties in water soluble films will comprise the first portion of the Detergent and Cleaning Compounds Division session. Robert K. Rigger, Wyandotte Chemicals Corp., Wyandotte, Mich., is moderator. Pan-

(*Turn to Page* 158)

Aerosol Display

ALL of the aerosol packages entered in the 1960 CSMA Aerosol Awards Packaging Competition, including this year's winners, will be on display in the Time Room of the Hollwood Beach Hotel throughout the 47th annual meeting of CSMA, Dec. 5-8. Close to 300 individual packages were entered in this year's contest, which was the ninth in the series. Included in the display in the Time Room will be photographs of winners of previous competitions. They show graphically the improvement in the appearance and quality of aerosol packaging since the contest was first held.

Program for the 47th Annual Meeting, Chemical Specialties Manufacturers Assn., Hollywood (Fla.) Beach Hotel, Monday-Thursday, December 5-8, 1960

Monday Morning, December 5

8:00 A.M.—Board of Governors Meeting
Committee Meetings

General Session

Pageant Room
George W. Fiero, presiding

10:00 A.M.

G-1—Address of Welcome—Frank L. Holland, Florida Agricultural Research Institute, Winter Haven, Fla.

G-2—Address of the President—George W. Fiero, Esso Standard Division, Humble Oil & Refining Co., New York

G-3—Report of Nominating Committee—Leonard J. Oppenheimer, chairman, West Chemical Products, Inc., Long Island City, N. Y.

G-4—Election of Officers and Board of Governors for 1961

G-5—Presentation of Aerosol Package Contest Awards—J. J. Tomlinson, General Chemical Division, Allied Chemical Corp., New York

G-6—"The World Today"—William L. Shirer, author and foreign correspondent

G-7—Panel on Federal Hazardous Substances Labeling Act—R. L. Ackerly, Cummings, Sellers, Reeves & Conner, Washington, D. C., presiding. Panelists: (7a) Emil G. Klarmann, Lehn & Fink Products Corp., New York; (7b) William W. Goodrich, Food and Drug Division, D. H.E.W., Washington, D. C.; (7c) George T. Scriba, Union Carbide Chemicals Co., New York.

Monday Evening, December 5

6:30-7:30 P.M.—Cocktail Party

9:30 P.M.—Variety Show—Mayfair Room

Tuesday Morning, December 6

Detergent and Cleaning Compounds Division

Pageant Room
W. S. Jessop, presiding

9:00 A.M.

DC-1—Address of Division Executive Board Chairman—W. S. Jessop, U. S. Sanitary Specialties Corporation, Chicago, Illinois

DC-2—Symposium on Packaging of Household Products in Water Soluble Films—Moderator: R. K. Rigger, Wyandotte Chemicals Corp., Wyandotte, Mich.

DC-2a—"Development and Marketing of Household Products in Water Soluble Films—Richard B. Wearn, Colgate-Palmolive Company, Jersey City, N. J.

DC-2b—"Development of a Polyvinyl Alcohol Type Resin for the Manufacture of Water Soluble Packaging Film"—Why and How—David F. Lowry, The Borden Chemical Co., Div. of the Borden Co., New York

DC-2c—"Water Soluble Films as Packaging Materials"—W. J. Vogel, Reynolds Metals Co., Richmond, Va.

DC-2d—"Development and Use of Polyox as a Water-Soluble Packaging Material"—Fred W. Stone, Union Carbide Chemicals Co., South Charleston, W. Va.

DC-3—"Ultrasonic Cleaning—Severn S. Carlson, Circo Ultrasonic Corp., Clark, N. J.

DC-4—"A Report on a New Alkanolamide For Use With Phenolic Type Germicide"—Chester F. Moculeski and Loretta Ciszak, Clintwood Chemical Co., Chicago; delivered by: Chester F. Moculeski

DC-5—"Antibacterial Treatment of Dust Mops"—J. C. Sherrill, Armour and Co., Chicago

DC-6—"A Rapid Photographic Method For Evaluation of Bleaching Agents"—Raymond L. Liss and Thomas B. Hilton, Monsanto Chemical Co., St. Louis, Mo.; delivered by: Raymond L. Liss

Waxes and Floor Finishes Division

Mayfair Room South
Earl Brenn, presiding

9:00 A.M.

W-1—Address of Division Executive Board Chairman—Earl Brenn, Huntington Laboratories, Inc., Huntington, Indiana

W-2—"Future of Polymers in Floor Polishes"—Richard H. Cahill and Lloyd H. Perry, UBS Chemical Corp., Carmbridge, Mass.; delivered by: Lloyd H. Perry

W-3—"Emulsification and Emulsion Stabilization With Hydrophilic Polymers"—R. J. Meyer and J. S. Wolff, B. F. Goodrich Chemical Company, Avon Lake, O.; delivered by: R. J. Meyer

W-4—"Product Certification of Chemical Specialties is Harmful"—Earl Brenn, Huntington Laboratories, Inc., Huntington, Ind.

W-5—"Concentrated Floor Polish Formulations"—Klaus S. Treviranus and Robert J. Turner, Morton Chemical Company, Woodstock, Ill.; delivered by: Klaus S. Treviranus

W-6—"Particle Size Technology of Polymer Emulsions. Part I—Measurement of Particle Size—John G. Brodnyan and Richard E. Zdanowski, Rohm and Haas Co., Philadelphia; delivered by: Richard E. Zdanowski

W-7—Report of Scientific Committee—Gerald R. DeNapoli, (Chairman), Masury-Young Company, Boston

Insecticide Division

Crown Club
Alfred Weed, presiding

9:00 A.M.

I-1—Address of Division Executive Board Chairman—Alfred Weed, Olin Mathieson Chemical Corporation, Asheville, North Carolina

I-2—"The Role of Chemistry in the Administration of the Federal Insecticide, Fungicide, and Rodenticide Act"—Thomas H. Harris, Clarence G. Donovan and Robert L. Caswell, U. S. Department of Agriculture, Washington, D. C.; delivered by: Thomas H. Harris

I-3—"The Imported Fire Ant Program"—C. C. Fancher, Agricultural Research Service, Southern Plant Control Region, Gulfport, Miss.

I-4—"Role of BDSA in Government and Industry Activities"—Miss Jane Lewis, Business and Defense Services Administration, U. S. Department of Commerce, Washington, D. C.

I-5—"Atmospheric Concentrations of Vapona Insecticide During and Following its Application on Various Dwellings"—E. A. Neuwirth and T. T. White, Shell Chemical Co., New York; delivered by: E. A. Neuwirth

I-6—Report of Scientific Committee—Joseph B. Moore, (Chairman), McLaughlin Gormley King Co., Minneapolis, Minn.

I-7—Report of Chemical Analysis Committee—Stanley K. Freeman, (Chairman), Benzol Products Co., Newark, N. J.

I-8—Report of Educational Committee—George Kerbey, (Chairman), Fairfield Chemical Division, Food Machinery & Chemical Corp., New York.

I-9—Report of Small Package and Garden Insecticides Committee—Harry L. Haynes, (Chairman), Union Carbide Consumer Products Co., Div. of Union Carbide Corp., New York

I-10—Report of Program Committee—Mark L. Hill, (Chairman), Gulf Oil Corp., Philadelphia

Tuesday Evening, December 6

"Suppliers Night"

6:30 P.M.—Cocktail Party—Pageant Room
8:30 P.M.—Buffet Supper—Regency Room

Wednesday Morning, December 7

9:00 A.M.-1.00 P.M.—Committees

Aerosol Division

Pageant Room
E. J. McKernan, presiding

9:00 A.M.

A-1—Address of Division Executive Board Chairman—E. J. McKernan, The E. J. McKernan Co., Inc., Elgin, Illinois

A-2—Financing Growth Industries—Elliott Averett, The Bank of New York, New York, N. Y.

A-3—"Credit Fundamentals: Dynamic or Static"—James Sheridan, Allied Chemical Corporation, New York, N. Y.

A-4—"Guideposts for Evaluating Profit Performance—John A. Willis, Union Carbide Corporation, New York, N. Y.

A-5—"Panel Discussion on Quality Control in the Filler's Plant"—Moderator: George Barr, G. Barr & Co., Chicago

A-5a—"An Aerosol Quality Controller Looks at Valves"—Norbert H. Prusky, S. C. Johnson & Son, Inc., Racine, Wisc.

A-5b—"Quality Control of Aerosol Containers"—Russell P. McGhie, Colgate-Palmolive Company, New York

A-5c—"Propellants and Propellant Systems"—Donald E. Dean, Shulton, Inc., Clifton, N. J.

A-5d—"Concentrate and Concentrate Systems, Production Line Filling and Water Bath Spray Checking Systems"—S. J. Campbell, Continental Filling Corp., Danville, Ill.

A-5e—"Laboratory Quality Control Procedures"—Daniel H. Terry Boyle-Midway, Division of American Home Products Corp., Cranford, N. J.

A-5f—"Special Quality Control Required for Pharmaceuticals"—John C. Armstrong, Armstrong Laboratories, West Roxbury, Mass.

A-5g—"Special Quality Controls for Food Aerosols"—Clarence Clapp, Western Filling Corp., Los Angeles

A-5h—"The Kind of Quality Control a Marketing Man Expects From His Aerosol Filler or Contract Loader"—Thomas S. Harrison, Lehn & Fink Products Corp., New York

A-5i—"Application of Statistical Quality Control to Aerosol Filling"—Edwin K. Kitow, G. Barr & Co., Chicago

Automotive Division

Mayfair Room South
C. A. Weslager, presiding

9:00 A.M.

Au-1—Address of Division Executive Board Chairman—C. A. Weslager, E. I. duPont de Nemours & Co., Wilmington, Del.

Au-2—Report of Brake Fluid Committee—D. H. Hanson, (Chairman), R. M. Hollingshead Corp.

Au-3—Report of Products Committee—J. M. Russ, (Chairman), Union Carbide Chemicals Co.

Au-4—Report of Hazardous Labeling Laws Committee—C. M. White, (Chairman), Olin Mathieson Chemical Corp., New Haven, Conn.

Au-5—Report of Anti-freeze Committee—H. A. Tenney, (Chairman), Jefferson Chemical Corp., Houston, Tex.

Au-6—Report of Scientific Committee—M. A. Frank, (Chairman), Dow Chemical Co., Midland, Mich.

Au-7—Report of Program Committee—A. E. Tongue, (Chairman), Olin Mathieson Chemical Corp., Baltimore.

Au-8—"Advantages of Using a Year 'Round Coolant"—R. W. Kallgren, Dow Chemical Co.

Au-9—"Chemical Specialties and the Modern Automobile"—Wardley D. McMaster, General Motors Corp., Research Laboratories, Warren, Mich.

Au-10—"A New Chemical Lubricant"—Walter A. Hall, Marshall Laboratory, E. I. duPont de Nemours & Co., Philadelphia

Au-11—"Inhibited Antifreezes for Cast Aluminum"—H. Lee Craig, Jr. and Patrick H. Woods, Reynolds Metals Co.; delivered by: H. Lee Craig, Jr.

Au-12—"Brake Fluid and Proper Brake Maintenance"—S. W. Coryell and D. H. Hanson, R. M. Hollingshead Corp.; delivered by: S. W. Coryell

Disinfectants and Sanitizers Division

Crown Club
Claude J. D'Angio, presiding

9:00 A.M.

DS-1—Address of Division Executive Board Chairman—Claude J. D'Angio, Airkem, Inc., New York, N. Y.

DS-2—Symposium on Merchandising Antimicrobial Products—Problems and Opportunities—Moderator: Arnold Lada, Onyx Chemical Co.

DS-2a—"Antimicrobial Additives—The Merchant's Viewpoint and Responsibility"—Eugene N. Kramer, Sears, Roebuck and Co., Chicago, Illinois

DS-2b—"Consumers' Media Looks at Antimicrobial Agents"—Esther McCabe, Parents' Magazine, New York, N. Y.

DS-2c—"Disinfectants—From the Hospital Housekeeper's Viewpoint"—Mrs. Willard K. Tew, University Hospital, Jackson, Mississippi

DS-2d—"The Genesis of Disinfectants"—Leonard J. Oppenheimer, West Chemical Products, Inc.

Wednesday Evening, December 7

7:00-9:30 P.M.—Dinner—Regency Room
9:00 P.M.—Water Show

Thursday Morning, December 8

8:00-10:00 A.M.—Board of Governors Meeting

General Session

Pageant Room
Charles E. Beach, presiding

10:15 A.M.

G-8—Report of Secretary—A. A. Mulliken, C.S.M.A., New York

G-9—Report of Treasurer—Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York

G-10—Report of Association Counsel—John D. Conner, Cummings, Sellers, Reeves and Conner, Washington, D. C.

G-11—1960 CSMA Achievement Award to Ira P. MacNair, MacNair-Dorland Co., New York, by George W. Fiero, president of CSMA

G-12—Address—Hon. Lee Thompson, Commissioner of Agriculture, Tallahassee, Fla.

G-13—Address—Hon. Doyle Conner, Commissioner of Agriculture Elect, Tallahassee, Fla.

G-14—Introduction of Officers and Board of Governors for 1961

Thursday Evening, December 8

6:30 P.M.—Farewell Cocktail Party—Pageant Room
8:00 P.M.—Special Dinner and Variety Show—Mayfair Room

Technical Service on Chemical

THE task facing a technical service department in a chemical specialties house may be vastly different from that facing the corresponding department in a chemical plant, that is in a plant producing basic chemicals exclusively.

What is the definition of a chemical specialty? *Soap and Chemical Specialties* magazine coined a definition of a chemical specialty well over 25 years ago, as follows: "A chemical specialty is a product manufactured from *basic chemicals* and which is suitable in finished form for industrial and household uses. A chemical specialty is a *finished chemical product* ready for the specialized use for which it was designed, as opposed to a basic chemical compound, i. e., a compounded polish or disinfectant as opposed to the silica, rouge, oleic acid, cresylic acid or other basic chemicals used in its formulation".

This definition is as true today as when first proposed 25 years ago. By its very definition then, a chemical specialty would involve technical service work quite different from that required for the basic chemicals from which it was made. The attendant uses of most chemical specialty products are generall well established and understood. While ancillary uses may be a factor in sales and promotion, obviously they represent a small fraction of the product value to the manufacturer. In the example given in the definition, the compounded polish, if specifically designed for automobile finishes, is without question, an automobile polish, and other uses such as for polishing refrigerators, metal cabinets, etc., will represent only a small part of its sales. A disinfectant may contain a chemical or chemicals capable of acting also as an algaecide or bactericide, but, compounded as a disinfectant, its use again is pinpointed toward a specific purpose, and it is not likely to be confused in use with some other area of activity.

The technical service man in the chemical specialty field then rarely must act as a chemical salesman. He is quite likely to be a jack of all trades rather than a highly specialized source of information for one narrow class of chemical compounds. In the chemical field, a technical service department is most likely to be a sales organization with a chemical background. The department is supported by its own laboratories with specialized research and development facilities, and may even include pilot plant operation. In the specialty field, on the other hand, the technical service man most frequently uses whatever facilities are at hand. The average specialty house can rarely support extensive specialized facilities, even when such may be desirable.

The average specialty firm is not an industrial giant and while it may possess all the faculties found in larger corporations, it may at the same time be without some of the facilities. Functions must frequently overlap to some extent, so that a sales manager may also find himself acting as his own advertising manager, copy writer, or in some other allied capacity necessary to make a business a going concern. Similarly, the technical service man may perform overlapping functions, and the hat-changing activity may be fairly brisk on some days.

What does the technical service man do in the chemical specialty field? He acts as liaison between the sales departments and the research laboratories. Beyond this point, the classic concept may falter. Since selling (in some direct manner) is not his main business, his efforts may be centered more in the laboratories than in the sales divisions. Other areas of interest frequently predominate, even though all roads must lead ultimately to more sales.

Must Know Products

Obviously, any basic function of technical service must start with comprehensive knowledge of the firm's own manufactured products. A thorough and complete understanding of their capacities and limitations is a first essential. What can the product do best, and what can it be expected not to do? This knowledge is the prerequisite for all further technical service work. This understanding, of course, is not enough. Professional use of the product by technical service personnel is certainly desirable.

In demonstrating a car pol-

Main functions of technical serviceman in chemical specialties industry are guarding product quality and development and dissemination of all technical information.

*Paper presented at third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Can., Oct 26, 1960.

Specialties

By Stanley W. Coryell*,

Technical Service Department,
R. M. Hollingshead Corp.,
Camden, N. J.



ish for use with polishing machines, the technical service man must be able to handle such a machine at least adequately, and preferably in a fashion approved by the professional. Similarly, spraying plastic films, or underbody coating involves professional use of the gun and a knowledge of equipment and guns available for such diversified spray work. Want to sell a casting sealer? Well, how are castings sealed at the foundry, or when integrated in an assembly line? What heat and pressures may be involved? Pre-soaking, draining, hardening, further machining? What type of casting defect must be sealed? Without answers to these questions, the product can be of little assistance to a production engineer. Product knowledge and product use must go hand-in-hand.

The simple application of a good automobile polish, when done by a technical service man, involves the product naturally, but additionally, may well involve a good general understanding of paint formulations, their physical and chemical attributes, and recognition at sight, of the type of paint. A knowledge of paint application is certainly useful. What is the difference between factory and repaint jobs? How does a $29.50 repaint differ from a $130.00 repaint job and how might that difference affect the use of your polish? If the paint showed blisters, pitting, peeling, checking, crazing or some other defect after use of your polish, what is the relationship between such defects and use of your polish? Over 1000 colors since 1950 are listed in today's paint catalogs as having been put on some production automobile. Which colors last for years? Which colors have a short life, or can be expected to show cracking of the film after some period of service? What cars and color combinations were repainted at no cost by the manufacturer when experience showed that such colors were not practical? The car polish must beautify and protect, and be a joy to use, but will it work on every one of those 1000 color and paint variations?

This type of analysis could be applied of course to any product, but I think the point is clear. Know, first of all, your own product.

Product Quality

In addition to knowing the product's performance, the technical service man should also be a good judge of product quality. Judgment of such quality would be based on experience, examination of competitive products where they might exist, and extensive field and use tests. Experience and knowledge of the formulating chemist and other co-workers, sales personnel, and the field service or consumer should not be overlooked.

Technical service is responsible for approval of all formulations and products originating within the firm. If salability can be judged, so much the better, but at least the product must be right for its intended purpose.

In investigation of quality, recommendations may be passed back to research or control laboratories for reevaluation or quality testing. Production may also be involved. Paste waxes, for instance, may have radically different application properties depending on the final paste form, which is controlled to some extent by pouring and filling temperatures. Where variables like this exist, technical service must judge the best form for each individual formula.

Additionally, recommendations may be passed on to sales departments. Additional uses may have suggested themselves. Methods of demonstration and pertinent use factors may have evolved. Quality comparisons with competitive products are also most useful.

Establishment of product quality then is a prime function of technical service.

Competitive Products

In the highly competitive field of chemical specialties, information on all competitors is vital. Competitive product knowledge can guide research and sales.

A planned periodic examination of all such products should be handled by technical service. Samples normally obtained are from sales outlets. They may be procured by department personnel when convenient, or by notifying proper sales divisions. Samples of new products are most commonly obtained by sales personnel in test market areas or wherever available, and funneled through the division concerned into technical service.

Usually, simple examination will reveal the nature of the product, and some estimate of its qual-

ity. If of poor formulation, or when misrepresented, examination may go no further. If of high quality, more extensive working tests may be used, and laboratory analyses conducted. Results of such tests are passed to sales and to research. Technical service may play a further part, depending on the strength of the competition, and the interest within the various departments.

Containers and Packaging

Technical service frequently plays a large part in determining the shelf life of products, and sometimes also, a part in selecting suitable containers, liners where required, cap foils and other parts of the package. At Hollingshead, although now large enough to rate its own department, such container evaluation was for many years under the direction of technical service.

If evaluation of packaging is handled by technical service, obviously some intimate knowledge of cans and other containers will be fundamental. If cans are not actually formed at the parent company, laboratory units for rolling on sealed tops, aerosol packaging units, and similar devices may be a necessity within the department. Again, at Hollingshead, with our own can plant, and filling lines, duplicating production packages for shelf testing has never been a problem. The same would not be true for plants lacking these facilities. Production packages, however, are most important if a true picture of shelf life and container and product stability is to be obtained.

Complaints

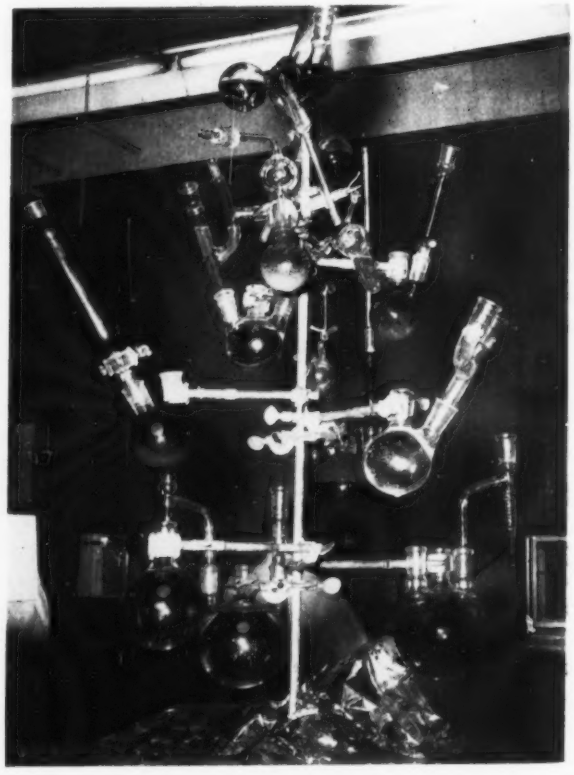
Complaints (no matter where they originate, or what their ultimate solution may be) are for a large part of their existence, the sole property of technical service.

Complaint forms are frequently used in the chemical industry where first investigators may not have a technical background. Because of the vast number of different compounds in our particular trade, complaint forms have proven to be cumbersome and inadequate for most problems. Where a customer complaint occurs, a report is made by our first corporate contact on a normal call report used by all field sales personnel. A chronological history of the complaint is made, samples of the product involved obtained, and where a damaged sample is practical, this is also obtained and sent through normal divisional channels.

Considerable discretion in settling complaints at the source is afforded all company contact men. Where property or bodily damage is claimed, a copy of the first and all subsequent reports on the claim must be supplied to our indemnity insurance company. Technical service remains, however, responsible for the investigation of all complaints, and establishing causes for same. In this function, we may establish direct contact with the customer for first hand examination. Proper notification of, and direction from, the sales division is routine. It is essential that close cooperation between sales and technical service be observed here, since alienation of an account, or even an individual, is hardly desirable.

Where contamination at the use point, or improper usage is established, the condition is reported to the sales division, and to the indemnity company if involved, and eventually, of course, to the customer. Where the product quality may be dubious, or where improper fill, contamination or deliberate sabotage may have originated in our own plant, all departments and divisions concerned are also notified of the complaint findings. Recommendations for correction of a quality factor may be passed along if such are deemed advisable.

Complaints may involve more than the product itself, and frequently other factors over which we have no control play a large part. Besides sufficient knowledge of automobile paints, as mentioned previously, the technical service man must have a good working



Novel Christmas tree devised in the research laboratories of Dodge & Olcott, Inc., New York essential oil, aromatic chemicals and flavor firm. Tree is made of laboratory glassware, distilling flasks and connections filled with different solutions of red, green and orange D&O colorings.

knowledge of automobile brake systems, automobile cooling systems, spray equipment, service parts and equipment, floor machines, floor surfacing, airplane servicing practices and any other practice, part or finish which affects the use of and directions for his own products.

With all of the many variations that might be expected, the bulk of such complaints results from misapplication and misuse. Silicate sealers are added to antifreeze solutions, windshield washer concentrates used without dilution, removers used on fresh paints, radiator sealers poured through carburetor downdrafts, hands immersed in carbon remover solutions, ad infinitum. Consumers still refuse to read the label on the package.

Labeling, Copy Control

Technical service enters strongly into all labeling and copy control, although these are primarily legal functions. Only technical service can validate directions and copy claims for a product. Copy would normally originate at the sales division level, except in the case of a new product, where laboratory or technical service could be the originating party. With a private label account, the customer often supplies preferred copy, which again must be checked for correctness.

Copy, while normally thought of as pertaining to the product package, includes, as far as technical service is concerned, all other areas where the product use and application may be stated and where claims made must be factual and correct. Advertising and promotion, trade information, publicity and radio and television scripts would be surveyed to insure correctness.

Package labeling includes, besides directional copy, hazardous statement copy where applicable. Legislation in the United States is involved and legal opinion is necessary. Technical service still advises as to when statements should be made and cautions the proper intercorporate authority where an area of doubt may exist. Chemical specialties cannot be sold without conformance to the regulatory laws and legislation which affect such products.

In the United States, some of the governing laws are as follows: Federal Food, Drug and Cosmetic Act; Federal Insecticide, Fungicide and Rodenticide Act; Federal Caustic Poisons Act; Federal Hazardous Substances Labeling Act; Regulations of the Federal Trade Commission; (Rulings and interpretations of all such acts).

There are also numerous state and municipal acts governing the sale and use of pharmacy products, industrial chemicals, household chemicals, economic poisons, agricultural chemicals, brake fluids, anti-freezes, gasoline and other petroleum products and various weights and measures laws.

While technical service cannot offer the final opinion on such regulations, a good understanding and current information on all such laws and regulations is certainly a necessity if the department is to fulfill its mission in guarding product quality.

Market Research

Again, while not a primary function of technical service, the department may frequently act as a springboard for market research and development. Field tests, conducted during the evaluation of a product, may form the backbone for more comprehensive testing and marketing in selected areas. Technical service may be of help in selecting the test area itself. The form of depth interviews and other selected adjuncts of market testing may be suggested. Certainly the department would be consulted in all preliminary discussions where product knowledge, understanding of service requirements, and reactions of first "outsiders" to the product would be of interest.

The department would be of help sometimes in actual preliminary research and development of markets. For most of Hollingshead's so-called "standard" products, the market already exists, is somewhat predictable, and represents a reasonably known number of dollars. However, we do develop products which may be novel and not represented in the market, or for which we do not have adequate distribution for proper exploitation. Before undertaking any comprehensive test marketing, with its attendant expense, technical service would be ideal for testing on a small scale. Their findings would be turned over to the proper division for evaluation and further decision.

Field Testing

Since technical service is obviously the best fitted for such testing by reason of long experience, service, and outside contacts, field tseting has long been a nearly exclusive function of the department. Field testing activities may be divided into three categories.

The first depends on our own individual efforts. We can use our own company garage and mechanics to run tests in our own and employees' automobiles. Such products as brake fluids, automobile polishes and cleaners, radiator chemicals, etc., fall into this readily available test group. The same is true where floor products must be tested, and we "borrow" for long periods, kitchen floors of numerous employees for our purposes. Employee testing is an important adjunct even when not supervised by technical service This is a phase sometimes utilized after we are reasonably sure of a product's worth, but are looking for housewife reaction, or a product preference, prior to actual test marketing. We have found excellent correlation between these efforts and market sampling conducted by professional researchers.

Some products such as immersion cleaners, do not lend themselves readily to testing by our own facilities, either because the number of samples to be tested is insufficient for evaluation, or

(*Turn to Page* 160)

Iodine Disinfectants

Emergence of iodophors has broadened uses of iodine in sanitation of food plants, dairy farms and institutions

By John L. Wilson, William G. Mizuno, and Carl S. Bloomberg*,

Economics Laboratory, Inc., Saint Paul, Minn.

IODOPHORS are mixtures of iodine in surface-active agents, which agents act as carriers and solubilizers for the iodine. Usually acid buffering agents are included in the preparations to provide a favorable pH in use solutions for the action of the iodine.

Iodophor "solutions have all the characteristics of iodine as a germicide, but display a low vapor pressure, an almost complete lack of odor and of staining power, and have low-irritant properties." (3b-p.329) "The iodophors are a comparatively new development in the application of iodine for disinfection purposes and they are said to be particularly useful in dairy hygiene." (3b-p. 329)

Consideration of the biocidal properties of iodine and a comparison of these properties with those of chlorine and other biocidal agents useful in industry will provide a background for the consideration of iodine and iodophors themselves.

History of Iodine

Chemically, iodine is classed as a halogen, along with fluorine, chlorine and bromine. In view of the long use and wide acceptance of chlorine and hypochlorites as germicides in the dairy industry, we will be particularly interested in a comparison of iodine and iodophors with chlorine and active-chlorine preparations.

Since iodophors are comparatively new agents, a brief mention of some uses other than in the food industry will be made.

Iodine was discovered about 1811. (1b-pp. 1-2) First commercial source of iodine was seaweed, which source is still being used. In 1840, iodine was discovered in Chilean nitrate beds [$Ca(IO_2)_3$], which still remain the most important sources of iodine (about 70% of 3,000,000 pounds annual world production). (1a-p. 945) Iodine is also produced from certain mineral waters, such as oil-well brines from California oil fields (accounting for about 20% of the total annual supply).

This review is not concerned with all the chemical properties and uses of iodine, which are important and varied, but rather with its biocidal properties and uses. (2) However, an appreciation of certain of the physical and chemical properties of iodine is essential to its effective use as a biocidal agent. Actually, "at the present time more than half of the iodine produced is used in medicine and antiseptics." (1a-p. 958)

Iodine was first used for treatment of wounds in 1839, and was so used in our Civil War, but did not come into general use for this purpose until after 1889. (1d-p. 224) Special usefulness of iodine as a skin disinfectant was reported in 1908, and today various iodine preparations are the most widely used and effective agents for such uses. (1d-pp. 239-242)

The French Army used iodine for sterilizing its drinking water in World War I. Since then,

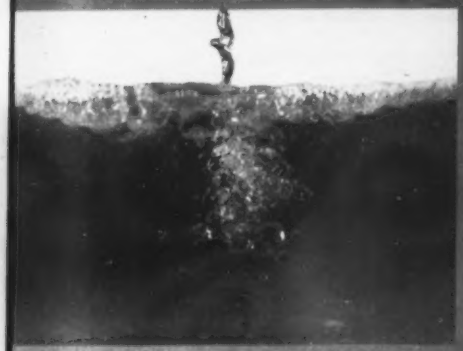
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*Paper presented at third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Can., Oct. 26, 1960.

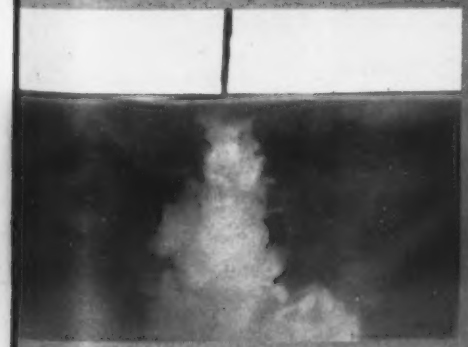
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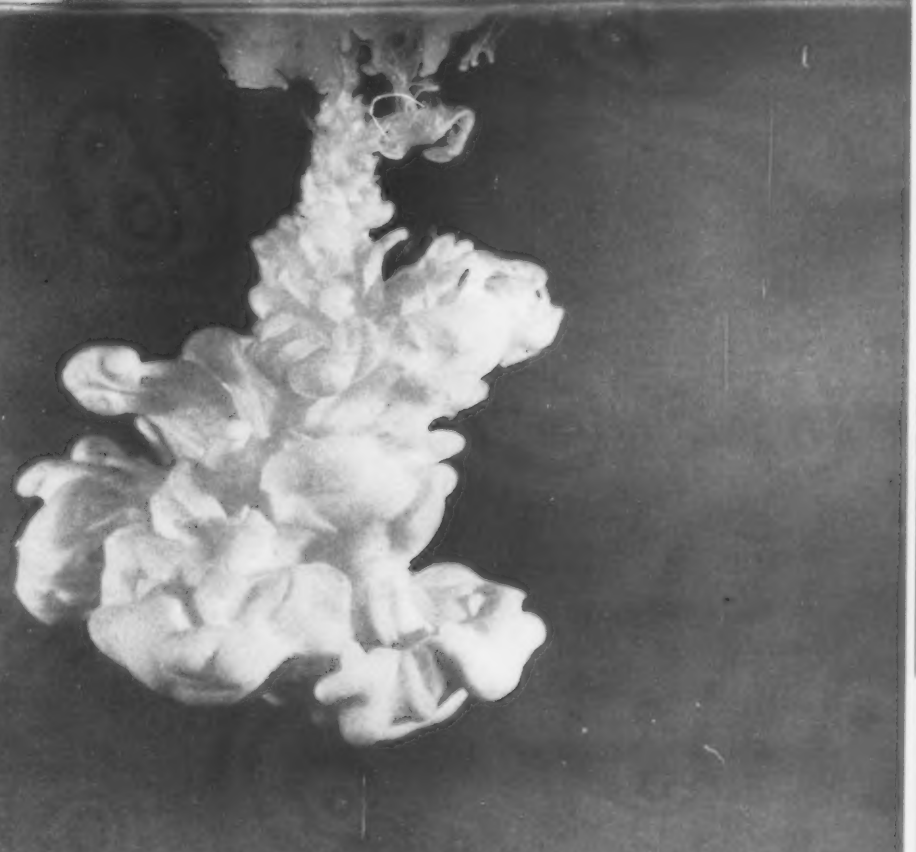
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1 Two immiscible phases separate immediately when a hydrocarbon solvent containing no emulsifier is poured into water.



2 The same solvent containing 3% of a poorly balanced blend of anionic-nonionic emulsifiers forms only a fair emulsion in water.



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extensive studies have been made of the efficiency of iodine and iodine preparations in treatment of water for drinking, swimming pools, and other uses. (2) Iodine is effective in water treatment and especially recommended for emergency uses. (1d-pp. 248-249)

Iodine preparations have been successfully used for sterilization of catgut and sutures, for the disinfection of surgical equipment and the sanitization of various other kinds of equipment. (1d-pp. 243-245)

Iodophors did not emerge until after 1950. Prior to that, iodine preparations for biocidal use were generally in the form of tinctures (alcoholic solutions) and aqueous solutions. There have been a number of changes and improvements in such preparations throughout the long history of their use. (See reference 1d-pp. 237-239, 250-252 for information on these and other preparations. See references 5a and 5b for information on stability of iodine solutions and tinctures.) Iodine is recommended as a preferred multiuse germicide for use in emergency and catastrophic circumstances. (1d-pp. 248-249)

Concentrations of iodine may be determined by titrating with sodium thiosulfate using starch as an indicator. Special test papers designed for checking concentrations of five to 100 ppm of iodine have been prepared (5c) and other test kits have been devised. These methods are not very suitable for testing lower concentrations. For this purpose α-naphthaflavone is claimed to be a suitable reagent or indicator for the detection of free iodine in amounts of less than one ppm. (5d)

Iodine itself gives dilute solutions a characteristic yellowish color which can be used for the qualitative and semiquantitative estimation of iodine in solutions of the strength now generally used for sanitizing food utensils.

Properties

Only those physical and chemical properties of iodine which are of special importance to its biocidal uses will be considered here. The more important of these are:

Iodine is a heavy bluish-black solid at ordinary temperatures—in contrast to gaseous chlorine.

It has a high vapor pressure and sublimes readily; vapors show characteristic violet color.

It "is only slightly soluble in cold water (one part in 3450 at 20°C), but is much more soluble in boiling water (one part in 250 at 100°C.)" (1d-p.225) Chlorine is more soluble, but its solubility decreases as the temperature of the water rises (one part in 75 at 0°C, and only one part in 175 at 30°C). (5c-pp. 562-563)

Aqueous solutions of free iodine show a characteristic yellowish color when dilute, but reddish-brown when concentrated.

The solubility of iodine in water can be greatly increased by the presence of iodides and any one of a number of organic solvents. (See 3d for official formulations.)

Iodine is very soluble in a large number of organic solvents, such as alcohol, ether, glycerin, propylene glycol, chloroform, carbon disulfide, carbon tetrachloride, benzene and numerous surface-active agents, giving either brown- or violet-colored solutions, depending upon the solvent.

Iodine is less active chemically than chlorine. For example, it will not react with ammonia to form amines under conditions in which active chlorine is converted to the less active chloroamines. (2f-p. 163) This is a very important consideration in the use of iodine for water treatment if traces of ammonia are present. Nevertheless, it does have a high chemical activity. It is this high activity which gives iodine its biocidal value. In solid form, it is corrosive to tissues.

When iodine solutions in which iodine content is increased much above its plain water solubility (except where certain surfactants are used as solubilizing agents) are diluted with water, often much of the iodine will precipitate out and to that extent be ineffective germicidally. Solid iodine from such a source or left from the evaporation of the solvent after application to the skin is very irritating and corrosive.

Iodine can react with water in solution to form various kinds of iodine compounds and ions. (2g) The proportion of the total iodine in the various possible forms depends upon the pH of the solutions. For instance, in highly acid solutions (low pH), most of the iodine is in solution as elemental iodine (I_2—diatomic iodine). As the pH is increased gradually, the iodine progressively changes into hypoiodous acid (HIO), hypoiodous acid ion (IO^-), and iodate ion (IO_3^-). Diatomic iodine has the highest biocidal activity. The activity decreases appreciably for each of the new forms—the hypoiodous acid ion being only slightly active and the iodate ion being inactive. Hence, the pH of solutions is very important in the use of iodine for biocidal purposes. These reactions can be summarized by the reactions shown in vertical columns of Table I.

Iodine in the presence of iodides can form periodide or triiodide ions $I_2 + I^- \rightleftarrows I_3^-$. The periodide has very low bactericidal activity, hence preparations containing excessive amounts of iodide should be avoided. (3b-p.326)

Iodine is reported to be more "penetrating" than most other biocidal agents. (1d-pp. 232-233) While the exact reasons for this ability to reach imbedded microorganisms or pass through membrane more easily than other agents may not be entirely known, they are undoubtedly related to the chemical and physical properties of iodine.

Table I. Forms of Iodine Present in Aqueous Solutions as a Function of pH

Acid Solutions	Neutral Solutions	Alkaline Solutions
$I_2 + HOH + H^+$	$I_2 + HOH$	$3I_2 + 6OH^- +$ Water
↓↑	⇅	↑⇓
$I^- + HIO + 2H^+$	$HIO + I^- + H^+$	$3I^- + 3IO^- +$ Water
	↓↑	↑⇓ (On Standing)
	$H^+ + IO^-$	$2I^- + IO_3^-$

The length of the arrow indicates direction of equilibria for different reactions.

Biocidal Properties

Before discussing the biocidal properties of iodine, it may be useful to list some of the more important biocidal uses of iodine preparations. (Table II.)

Iodine is an effective agent against a wide variety of organisms. (Table III.)

Table II. Some Biocidal Uses of Iodine

Disinfection of skin	Control of mold on fruit
Irrigation of wounds	Purification of water
Treatment of eyes	Sanitization of Swimming Pools
Sterlization of catgut	Sanitization of Food Utensils
Sterilization of thermometers	Sanitization of Dairy Utensils
Sterilization of instruments	Sterilization of air

Active against both gram-positive and gram-negative bacteria, iodine is surprisingly non-specific. In this respect, it is superior to all other bactericides.

Iodine acts faster even than chlorine and hypochlorites, much faster than the chloroamines, quaternaries, phenolics, and other agents. (1d-p. 230) "Bactericidal efficiency tests with dilute halogens (1:5000) revealed that free iodine solutions displayed more effective antibacterial activity against the test bacteria than did chlorine or bromine at 37°C or 24°C either in the presence or absence of organic matter. Iodine solutions of such strength were found to be effective for use as antiseptic washes and for irrigation purposes in pH ranges from 2.2 to 8.0." (1d-p. 228)

In most uses, concentrations of 50 ppm or less of active iodine are sufficient. Iodine's minimum bactericidal concentration is almost as low as its bacteriostatic concentration. (1d-p. 229, 31-pp. 174-175) Insofar as bacteriostatic action is concerned, iodine resembles chlorine and hypochlorites and differs from chloroamines, phenolics, quaternary ammonium compounds, and other agents.

Temperature coefficient of bactericidal activity is relatively low compared with that of most other bactericides. This means that iodine is comparatively more effective than other agents at lower temperatures.

While pH seems to be of minor importance in surgical uses of iodine where very high concentrations are used, it is very important at low concentrations used for sanitization of food and dairy equipment. This fact has already been referred to, but its importance merits further mention. (3b-p. 327, 31-pp. 173-174) Table IV shows the different molecular and ionic species present in acid, neutral, and alkaline solutions and their relative bactericidal activity.

Table III. Iodine is Effective Against:

Bacteria	Rickettsia
Spores	Protozoa
Viruses	trophozoites
Yeasts	cysts
Molds	Helminthes

For greatest activity in dilute solution, iodine should be used at an acid pH (pH 5 or less). It still has considerable activity in neutral and mildly alkaline solutions, but, at low concentrations, has little or no activity in highly alkaline solutions.

Iodine and chlorine are very much alike in this variation of activity with pH. However, iodine is superior to chlorine in acid solutions because it is more stable and less corrosive. Both iodine and chlorine differ from quaternary ammonium compounds, few of which are effective bactericides in acid solutions. Effective in neutral solutions, quaternaries exhibit increasing activity as the pH is increased.

Effect of organic matter is negligible at high concentrations such as used for skin disinfection. However, the presence of many kinds of organic matter decreases germicidal activity of iodine at low concentrations as is the case with chlorine. (3b-p. 327) But since iodine is chemically not as active as chlorine, the deleterious effect of organic matter is somewhat less than on chlorine and hypochlorites. Neither is iodine so adversely affected by the presence of soaps and anionic surfactants as are the quaternary ammonium compounds.

In spite of the fact that solid iodine is extremely corrosive to tissues, iodine, when correctly used for germicidal purposes is less toxic and irritating than many other agents. (1d-pp. 230-232) This fact is illustrated by figures shown in Table V.

Table V. Relative Toxicity of Bactericides to Nine Day Old Chick Embryos at 37°C.

Bactericide	Toxicity Index*
Iodine (aqueous)	0.0125
Iodine (tincture)	0.18
"Zephiran" (aqueous)	0.058
"Zephiran" (tincture)	0.037
"Argyrol"	0.37
Hexylresorcinol	0.8
Phenol	2.0
Sodium hypochlorite	10.2

*Toxicity Index = $\frac{\text{Conc. to kill bacteria}}{\text{Conc. to kill chick-embryos}}$

Iodine in high concentrations and acid solution is effective as a sporicide. Lowering pH increases activity. (3o and 1d-pp. 233-234) Iodine is effective also as a tuberculocidal agent. (1d-p. 233

Table IV. Relationship Between pH and Bactericidal Effect

pH	Molecular or ionic species present in solution		Bactericidal Activity
Low	Free iodine	I_2	Most active
Intermediate	Free iodine	I_2	Most active
	Hypoidous acid	HIO	Less active
	Hypoidite ion	IO^-	Still less active
High	Hypoidite ion	IO^-	Still less active
	Iodate ion	IO_3^-	Inactive
	Iodide ion	I^-	Inactive
	Triiodide ion	I_3^-	Inactive

Table VI. Bactericidal effect of 200 PPM Halogens
(Minutes to Kill by Modified FDA Method)

Organism	Chlorine		Bromine		Iodine	
	37°C.	24°C.	37°C.	24°C.	37°C.	24°C.
S. *aureus*	>15	>15	1	15	1	1
S. *typhosa*	"	"	>15	15	1	1
Ps. *aeruginosa*	"	"	"	>15	1	1
E. *coli*	"	"	"	15	1	1
B. *mesentericus* (vegetative)	"	"	"	>15	1	1
B. *megatherium* (vegetative)	"	"	"	"	1	1
B. *subtilis* (vegetative)	"	"	"	"	>15	>15

and 3p) and is reported to be a virucidal agent. (1d-pp. 235-236, 2g, 3b-p. 228, 3c-p. 177 and 3q) Iodophors were not used in the above-cited references on virucidal work. Elliker and his co-workers have reported in two papers (4r and 4aa) that the iodophor preparations they tested were not very effective against phage of S. *cremoris* at 144°F. This is a little surprising in view of the activity reported for other iodine preparations. Iodine is a killing agent for cyst of *Endamoeba histolytica*. (1d-p. 237 and 2g)

Water hardness, up to 5000 ppm, is reported to have no effect on bactericidal efficiency of iodine sanitizing solutions. (3s) However, this should not be taken to mean that it is unnecessary to consider water impurities in preparing an iodine sanitizer. Water may have contaminants other than calcium and magnesium salts responsible for hardness. Since iodine-sanitizer solutions are generally more effective at lower pH levels, alkalinity and buffering capacity of the water is important. Iodine sanitizers should be of such composition, and used in such concentrations, as will neutralize the alkalinity of the water used to an effective acid pH.

Just as water may have a chlorine demand, so it may have an iodine demand, due to organic or inorganic contaminants capable of reacting with the iodine under conditions of use. While this is less of a problem with iodine sanitizers than with active-chlorine sanitizers and quaternary ammonium sanitizers, it still needs to be taken into consideration when preparing and using iodine-sanitizer solutions. Iodine has useful fungicidal and fungistatic activity. (1d-pp. 234-235, 3b-p. 328, 31-p. 177)

Table VI shows a comparison of the killing time arrived at by the modified FDA method for chlorine, bromine and iodine at a concentration of 200 ppm at two different temperatures against organisms. Iodine is considerably more effective than chlorine and bromine.

Chambers and co-workers in the bacteriological section, Environmental Health Center, Health Service Laboratories in Cincinnati, made an extensive study of iodine as a bactericide. (2f) Their work shows that iodine is effective against a large number of different organisms at extremely low contrations, and even at low temperatures, and that high alkalinities are not favorable to the bactericidal action of iodine.

Condensed from Table I of Chambers' paper, our Table VII shows results in terms of parts per million of iodine required to kill a number of different organisms in one minute at two different temperatures and two different pH levels. The original table also gives data for concentration required to kill in two minutes and five minutes, and at pH 8.5 and 9.15.

Parts per million of available iodine required to kill all test bacteria in one minute for three different organisms at two different temperatures, and at four different pH levels appear in Table VIII (Chamber's Fig. 2). The difference in concentration required for killing at pH 6.5, 7.5, and 8.5 is not too great at either of the temperatures used. However, at a temperature of 2°-5°C., a considerably higher concentration of iodine was required to kill at pH 9.15 than at the lower pH levels. This was not true at a temperature of 20°-26°C. Except for the high pH, the concentrations required to kill at 2°-5°C. were in general less

(*Turn to Page* 141)

Table VII. Partial Summary of Results Obtained by Chambers et al. U.S.P.H. Center

Culture	Average ppm iodine required to kill all bacteria in one minute			
	At 2°-5°C.		At 20°-26°C.	
	pH 6.5	pH 7.5	pH 6.5	pH 7.5
E. *coli* C-37		1.4		0.8
E. *coli* C-36	1.9	2.0		0.69
A. *aerogenes*		0.9		0.6
S. *typhosa* P-4		0.7		0.47
S. *typhosa* P-5		0.7		0.47
S. *typhosa* P-10		0.87		0.4
S. *paratyphi* P-2		0.85		0.53
S. *schottmuelleri* P-3		1.2		0.6
S. *typhi-murium* P-6	1.33	1.67	0.4	0.93
S. *flexneri* P-7		2.6		0.67
S. *dysenteriae* 11P8		1.33		0.55
S. *sonnei* I P-9	1.66	2.47	0.6	0.6
S. *fecalis* E-40		2.37		0.7

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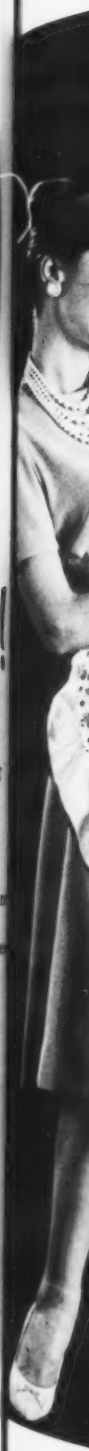
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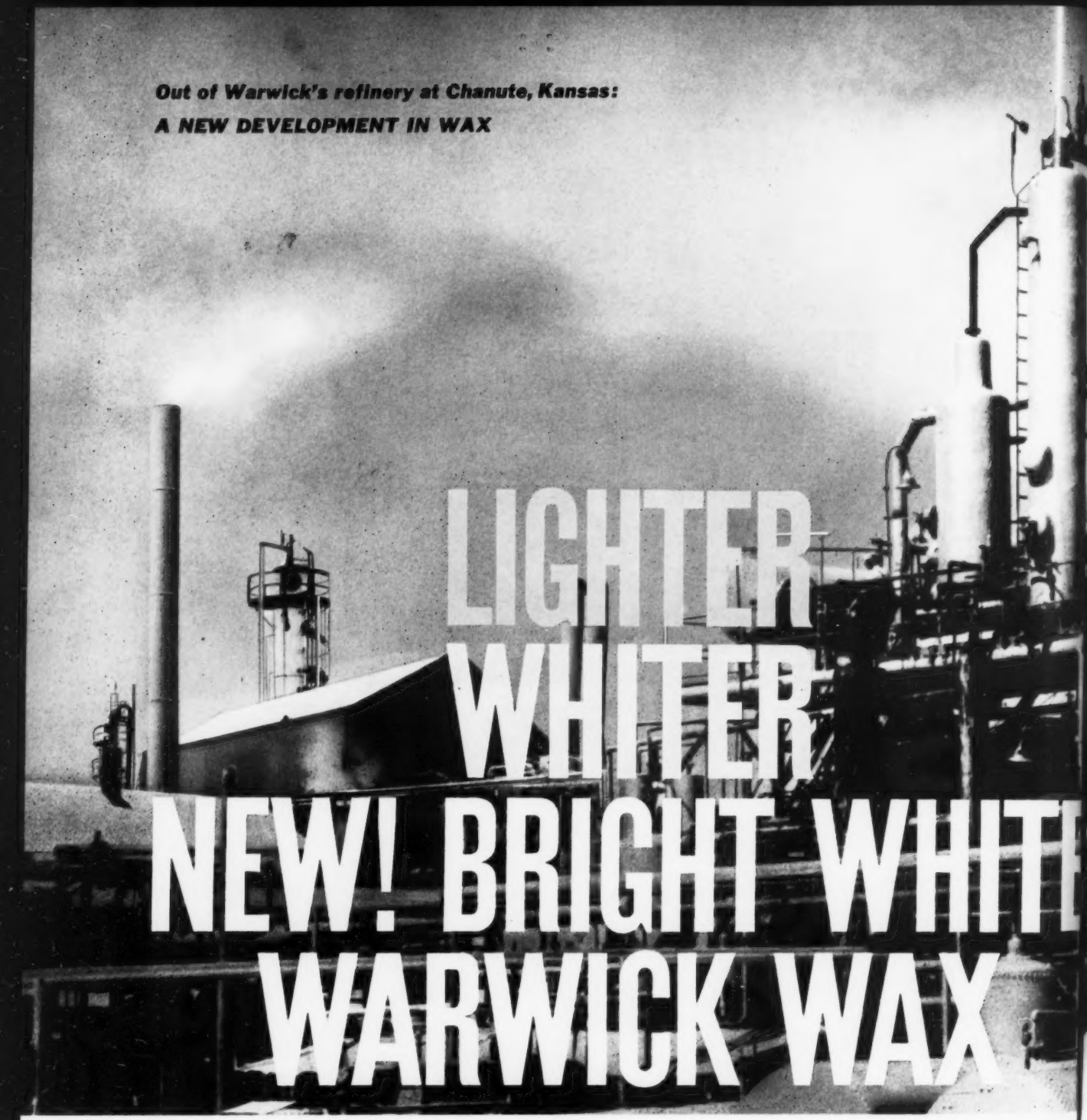
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Emulsion Floor Polish Films

Study of mechanical behavior of emulsion type films reveals stress-strain and stress-relaxation properties affected by film composition, humidity conditions.

By Kurt Gutfreund*,
Armour Research Foundation,
Illinois Institute of Technology,
Chicago

AMONG external influences which impose a time limit on the usefulness of protective films, mechanical forces play a considerable role. Shear, compression and frictional effects are largely responsible for the deterioration of surface properties of finishing compounds under conditions of use. The impairment of esthetic and functional qualities of a surface film, however, must in a final analysis be related to intrinsic properties, since resistance to mechanical effects depends directly on the chemical nature of the film-forming material.

The investigation described here comprises a phase in the study of emulsion-type surface care formulations, with the main emphasis placed on mechanical behavior, and in particular on viscoelastic relationships in films prepared from different formulations.

Film Casting Techniques

Formulations investigated include representatives of a resinous, hard film depositing emulsion (110), a buffable surface care formulation (120), a high polymer finish (130) and a mixed resinous-high polymer composition (140). Solids contents of these emulsions, in the above listed order, were 12.31; 12.25; 12.49; and 12.40 per cent by weight respectively. It was found in preliminary experiments that casting of films from emulsions on glass, metal, cellophane and poly (vinylchloride) surfaces yielded a finish which tenaciously adhered to the substrate and could not be removed from it without damage. Use of solid hydrocarbons (eicosane, "Petrosene," (Sonneborn), petrolatum, etc.) as substrates also proved unsatisfactory, because of the danger of plasticization of test specimens in the process of thermal separation of films from the casting surface.

In view of these difficulties, efforts were directed toward developing a suitable technique for preparation of films by casting on mrecury. The following procedure was adopted: About 15-20 ml of emulsion were delivered by pipette to form a thin layer on the surface of liquid mercury previously introduced into 6-inch Petri dishes. The dishes, partly covered with polyethylene film to permit evaporation of the water phase of the emulsion, were placed on a sturdy, vibration-free support and kept at room temperature (25°C) for two to three days. In this period eight to 12 mil-thick films were formed on the mercury surface. These films were removed from the liquid substrate by means of a partially evacuated suction cup and were subsequently cut into ½ x 4 inch test specimens and mounted on polyethylene covered 5 x 7 inch lantern slides to prevent curling and possible sticking of samples during conditioning.

The pronounced effect of moisture on viscoelastic properties of deposited films, observed in the course of this study, necessitated conditioning and testing of samples at constant humidity. Relative humidities of 20, 52 and 98 per cent were selected to cover the extreme range of atmospheric variations. The above humidity conditions were obtained by the use of potassium acetate (CH_3COOK), sodium bisulfate ($NaHSO_4 \cdot 5H_2O$) and calcium sulfate ($CaSO_4 \cdot 5H_2O$) saturated solutions.

The prepared test samples, mounted in strips on glass plates, were conditioned for two to three days at 20°C at the desired humidity. This time period was required for the films to reach moisture equilibrium. To prevent any change in the water content of specimens during stress - strain measurements, the immediate test area was isolated by a "Lucite" (du Pont) and polyethylene film envelope. A crystallization dish was placed into the enclosure in order to maintain the desired moisture of samples during testing.

Apparatus

An Instron tensile testing machine, provided with a moisture conditioning enclosure, was used in stress-strain and stress-relaxation measurements on free films prepared from surface-care formulations. To avoid fracture of test specimens within the jaws of the loading device, the metal surfaces of the sample gripping clamp were

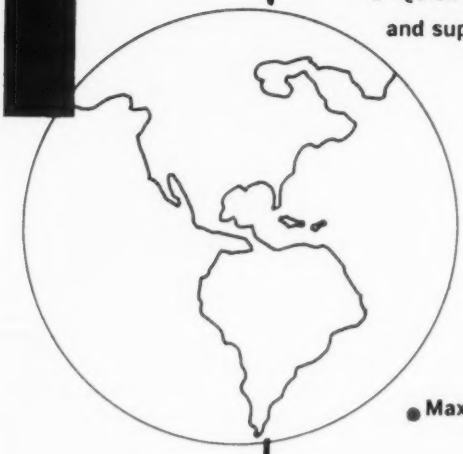
*Paper presented at 46th midyear meeting, Chemical Specialties Manufacturers Association, Chicago, May 17.

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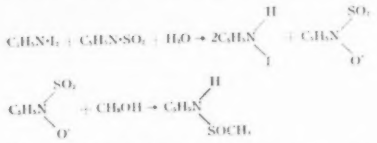
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lined with butyl rubber. The crosshead speed of the instrument was varied from 0.05 to 5 in./min., depending on environmental conditions. In stress-relaxation studies the stress decay of specimens, extended to 0.5 and 1.0 per cent elongation, was followed as a function of time while initial rates of elongation ranged from 0.1-1.0 in./min.

An electrometric titrimeter (Beckman Instruments, Inc.) was employed in determinations of the moisture content of films at different humidity equilibrium conditions. Based on the quantitative reaction of a mixture of pyridine-sulfur dioxide and an iodine-methanol solution with water according to the Karl Fischer reaction:



the method involved titration of specimens macerated in 30 ml of methanol with a standardized reagent.

Moisture Content of Films

In order to determine the relative effect of water on plastoelastic properties and to establish equilibrium conditions in films exposed to constant humidity, the moisture content of test samples was determined at three selected relative humidity (R. H.) levels: 20, 52 and 98 per cent R.H. (Table 1). To ascertain whether differences in moisture absorption were not due to possible interaction of films with the Karl Fischer reagent,

Table 1. Moisture content of Films at Different R. H. Levels

	Moisture Content, %			
% R.H.	110	120	130	140
98	18.7	7.5	3.9	9.1
52	12.1	3.0	2.7	4.6
20	11.0	1.6	1.7	2.8

water content was also determined in a Cenco-De Khotinsky oven by vacuum drying methods. Results were in agreement within 12 per cent.

The relatively high moisture equilibrium content of resinous films (110) indicates their hydrophilic character, which distinguishes them from films prepared from high polymer containing formulations (130). The change of 110 type films from brittleness to relative flexibility in transition from 52 to 98 per ent R. H. and the pronounced toughness of 130 films irrespective of moisture conditions, however, suggests that absolute water content, although affecting plasticization, as shown in subsequent stress-strain studies, does not dominate the mechanical behavior of all films. Intrinsic properties such as chemical composition, molecular weight and crystallinity are apparently of primary importance, while the influence of water represents a secondary effect.

Table 2. Mosture Content of Films as a Function of Conditioning time at 52% R.H.

Conditioning Time, days	Moisture Content, % 110	120	130	140
1	15.3	3.6	3.1	5.2
3	12.7	—	—	4.7
5	—	3.1	2.9	—
10	12.7	3.0	2.7	4.6
18	13.3	2.8	—	—

The time required for moisture equilibration of the four films investigated was determined for specimens conditioned at 52 per cent R. H. (Table 2). A slight decrease in moisture content continued throughout the duration of the experiment. However, virtual equilibrium was attained in a relatively short time after exposure to a given humidity, and samples conditioned for more than two days acquired a practically constant moisture level.

Stress-Strain Properties

Considerable differences were found in the stress-strain behavior of films prepared from various formulations and in samples of a given series of the same film in tests conducted at different moisture contents and rates of strain. Figures 1 through 9 represent stress-strain properties of hard resinous (110), buffable (120) polymer-base (130) and mixed resinous-polymer (140) films at 52% (Figures 1-3), 98% (Figures 4-6) and 20% R. H. (Figs. 7-9). Stress-relaxation behavior of these films for the same humidity levels is shown in Figures 10-12.

Unlike other emulsion-deposited films, 130 exhibited good strength and elongation and showed a characteristic yield region at 8-15 per cent elongation. In Figs. 1, 4 and 7 the dip in the curve is followed by a gradual increase in stress, indicating the effect of orientation in the apparently high molecular weight material. It

Fig. 1. Stress-strain behavior of 140 films at 52 per cent R.H.

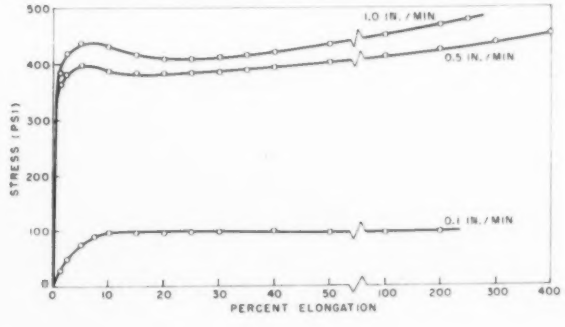
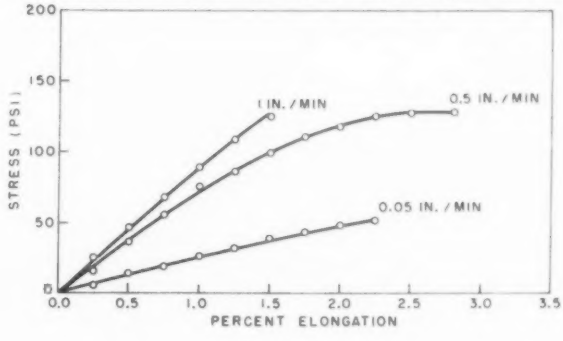


Fig. 2. Stress-strain behavior of 120 films at 52 per cent R.H.



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W-COPOLYMER—40% AQUEOUS EMULSION Adaptable for use in many fields including general adhesives, heat-set inks, paints, label adhesives, textile sizes, non-woven fabrics, paper coating and others.

For more detailed information about which of the PVP/VA Copolymers best suits your requirements, write for our 20-page technical bulletin.



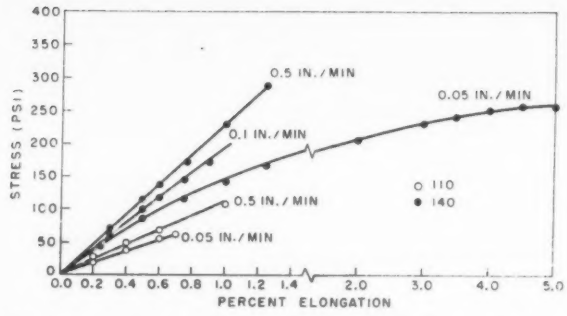


Fig. 3. Stress-strain behavior of 110 and 140 films at 52 per cent R.H.

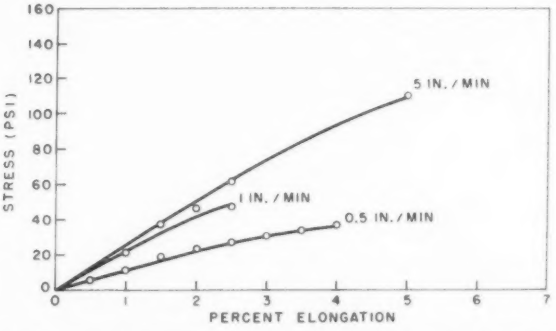


Fig. 5. Stress deformation curves of 120 films at 98 per cent R.H. and different rates of elongation.

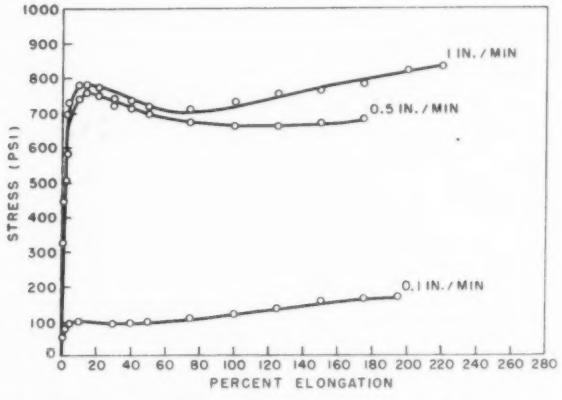


Fig. 7. Stress deformation of 130 films after 18 days exposure to 20 per cent R.H.

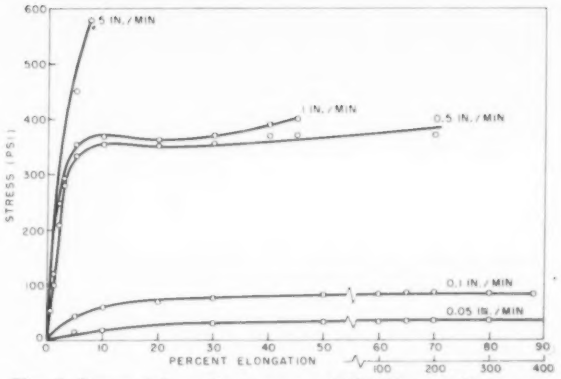


Fig. 4. Stress deformation curves of 130 films at 98 per cent R.H. and different rates of elongation.

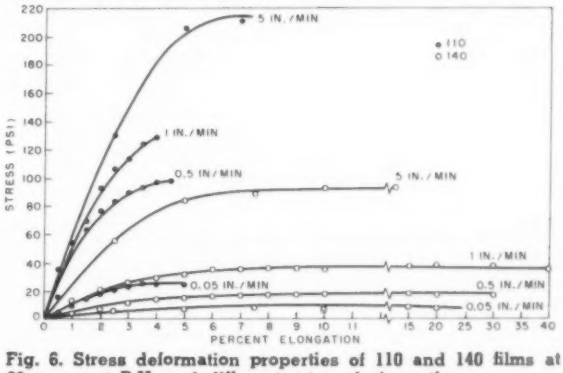


Fig. 6. Stress deformation properties of 110 and 140 films at 98 per cent R.H. and different rates of elongation.

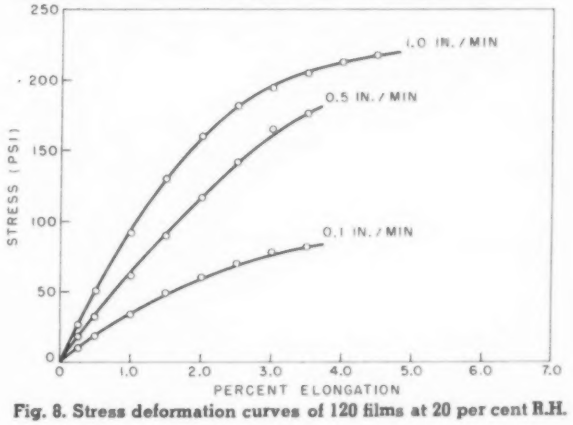


Fig. 8. Stress deformation curves of 120 films at 20 per cent R.H.

is interesting to note that the yield effect, a result of sample necking, becomes less pronounced at lower rates of loading and at higher moisture levels. This could be attributed to the greater relaxation of plasticized test specimens at low rates of strain. The different shapes of stress-strain curves of polymer-based films above and below the 0.5/min rate of strain indicate the effectiveness of the relaxation process in this range.

The dependence of the stress-strain behavior on the rate of testing gives evidence of the viscoelastic nature of materials investigated. At ordinary room conditions (73°F., 52% R. H.) 110 films exhibited the strongest elastic component of the series (Fig. 3.) At the same time, however, these films showed considerable brittleness, and their low ultimate elongation (0.7%) at an elongation rate of 0.05 in./min. (Fig. 3) and low work-to-break factor* (0.21-0.50 psi x in.) indicated extreme fragility. The 110 films had a tendency toward stress crazing (development of small cracks in the direction perpendicular to the acting force) at 52 per cent R. H., which probably affected the modulus and work-to-break values

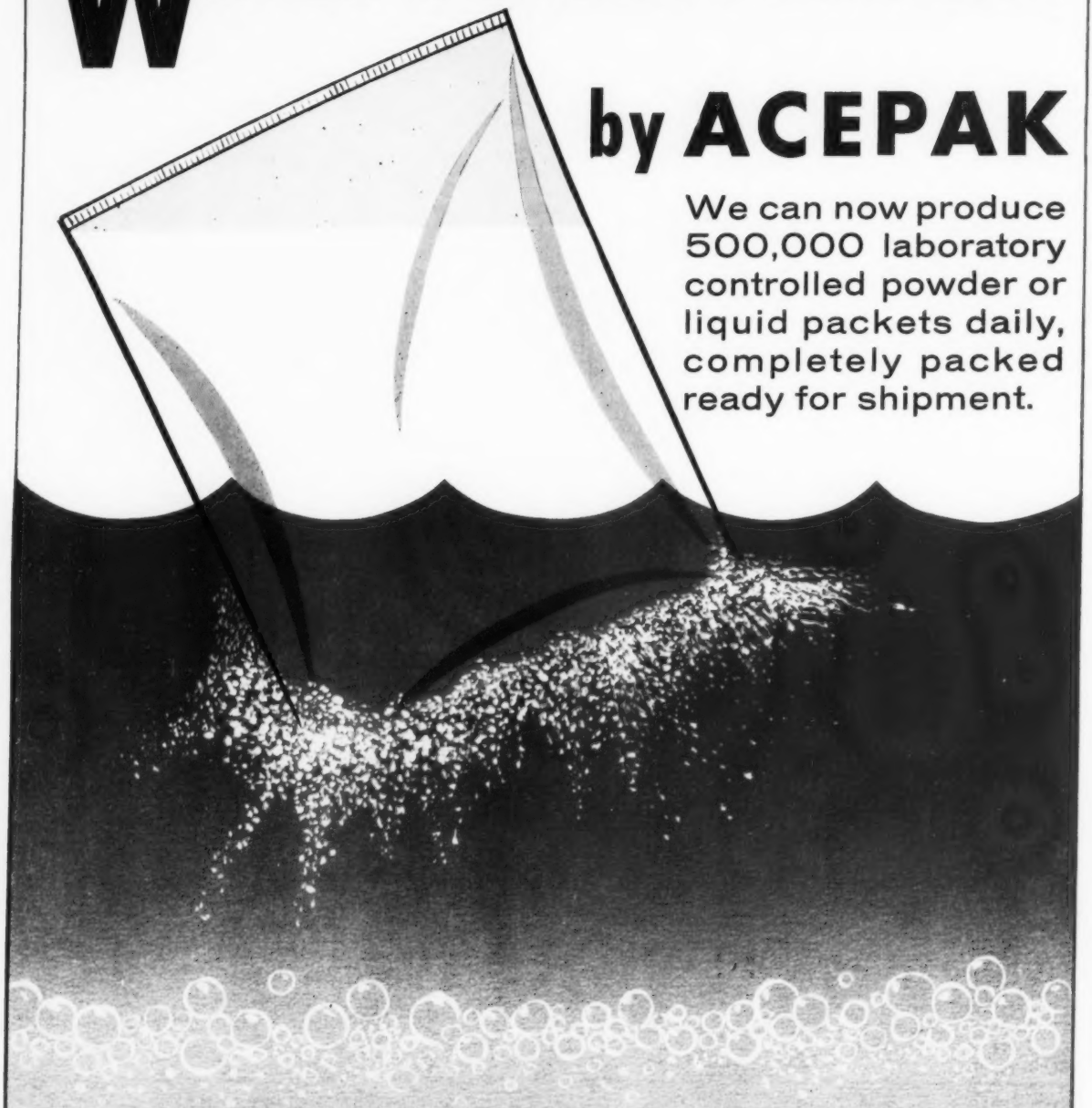
(*Turn to Page* 143)

*The work-to-break factor is a measure of the energy required to produce failure in films; it is determined by integration of the area enclosed by the stress-strain diagram.

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Registering Pesticides in Canada

Well-documented applications essential for the registration of all new pesticides

By W. S. McLeod*,
Supervisor, Pesticide Unit,
Plant Products Division,
Canada Department of Agriculture

As knowledge of pesticides increases, so the work load in the Pesticide Unit of the Canadian Department of Agriculture increases. Already this year we have set a new record for number of registrations. The previous record was set in 1956 when 3,150 certificates were issued. At that time it was decided that the burden was becoming too heavy and that all medicated feeds would henceforth be subject to the provisions of the Feeding Stuffs Act rather than the Pest Control Products Act. This change gave some temporary relief, but in 1958 and 1959 the total of pesticide registrations moved back to the vicinity of 3,000.

This year, as I said a moment ago, we are setting a new record. As of the third week in October, registrations totalled 3,250. Of these, 416 were products that were registered in 1960 for the first time.

I feel that, as a team, we have made progress during the past summer. I know we were slow at first but the operation is progressing more smoothly now. We recognize the need for a continuing effort to improve our knowledge and we count on the cooperation of manufacturers and the cooperation of their technical men in the clarification of many specific questions.

We count on the cooperation of manufacturers also in the matter of submission of well-documented applications for registration. This is particularly important when the application deals with a new pesticide on which our files of information are not adequate. Even with the well-known pesticides, however, where we may have much research information on hand, the Pest Control Products Act requires that certain information shall be set forth in applications. It is always regrettable to us, and I am sure to manufacturers also, when we have to engage in an exchange of letters before an application can be given a final decision.

I would like therefore, to discuss some of the requirements of the Act so that manufacturers may know what is required of them and that we may be able to handle their applications with greater dispatch.

First of all, the Act requires that the brand name of the product be recorded and that the brand name shall, whenever practicable, be descriptive of active ingredients, physical form, and purpose. We find that the names of products for agricultural use present no problem as a rule but those pesticides recognized as belonging in the chemical specialties group are sometimes a little harder to bring into conformity with the Regulations.

Ingredient Statement

Item 2 of the Application for Registration is a statement of ingredients. There seems to be a considerable misunderstanding of just what is required here and I believe that this causes as many delays in issuing certificates as any other single item. As yet I cannot decide whether the trouble is due to the fact that we have failed to explain clearly what the Act requires or that manufacturers are reluctant to disclose the details of their formulations.

If it is the latter, all I can say is that the Act specifically requires that this shall be disclosed to us. We regard such information as confidential, not to be released by us to any person other than responsible Government officials.

It is, of course, essential that the ingredient statement be released to our advisors so that they may adequately assess the application, but they are all Government officials.

It is also released to the official analysts so that they may perform the required analyses.

If, on the other hand, we have failed to explain clearly what the Act requires, then I welcome this opportunity to discuss the problem with you.

It is as simple as this: what do you pour into the vat or blender in your plant? Do you pour in a technical pesticide or do you use a concentrate containing one or more active ingredients in solution? How much do you put in? How much of other solvents or diluents, emulsifying or wetting agents, perfumes, and other ingredients do you add? In other words, what is your manufacturing specification?

Now, certain added information should be supplied. Please give us an adequate description of

*Paper presented during third annual meeting, Canadian Manufacturers of Chemical Specialties Assn., Montreal, Oct. 25, 1960.

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(*From Page* 121)

the quality of each of the ingredients you have reported.

Describe the concentrate.

Give us the specification of the solvent oil.

From this information we can easily calculate through to your statement of guarantee of active ingredients.

In making our calculations we are able to assess the overage you are mixing to take care of normal variability, deterioration of active ingredients, etc. We will also have an excellent chance to discover whether or not an error exists in the specification. Of course I realize that members of the Canadian Manufacturers of Chemical Specialties Association do not have errors in their specifications, but I can assure you that some of your competitors do.

The application form also provides space for a statement of the physical form of the final product, its specfic gravity, and the size of package in which it will be offered for sale. This information is helpful to us in our assessment of your application.

Guarantee Statement

The statement of guarantee presents no special problems. It is required that the guarantee include the words "Effective for the purpose claimed," as well as a statement of the active ingredients and the amount of each in the product. Where a common name has been approved for the pesticide, the common name shall be used in the statement of guarantee but where no approved common name is available, the chemical name shall be used.

The Application for Registration is a legal document and must be signed by an authorized representative of the registering company. If the registrant is non-resident in Canada, the form must also be signed by the Canadian agent or Canadian representative of the registrant.

Labeling

The Regulations require that you submit, with your application, three copies of the claims and directions for the use of the product and three copies of the text of the label that will appear on the container. These are required to set forth clearly the pest to be controlled, the time and rate and method of application, the frequency of application and any other pertinent information. It follows that the directions shall include appropriate cautions with regard to the use of the product and, if the material is sufficiently toxic to humans or animals, the label shall bear a poison warning, and a statement of the antidote, if any. Usually all of the claims of effectiveness, directions for use, and caution statements for an agricultural pesticide are printed on the label. It is quite possible under the Act for much of this information to be printed in a leaflet to accompany the package and this is often done in connection with small package products. However, three copies of such a leaflet must be included as a part of the application for registration.

New Pesticides

Thus far, my remarks have been very general and applicable to practically all pesticides. I had planned, however, to devote some attention to the registration of new pesticides. By this I mean pesticides that have not previously been accepted for registration, but my remarks may be interpreted as applying equally to applications dealing with new uses for previously registered chemicals.

Earlier, I stated that, as knowledge increases, the number of registered products increases. There is another aspect of the problem. As knowledge increases, the considerations to which a new material must be subjected become more complex and, by the same token, so have the problems of assessing an application in relation to the requirements under the Act become more complex.

I know that the representatives of industry are feeling this increased pressure but I can assure you that the registering officials are feeling it to an equal degree. The Act provides for the consideration of effectiveness and safety in the determination of eligibility for registration.

The legal position is set forth quite clearly. Section 4 of the Act gives the Minister authority to require relevant information and Section 5 of the Regulations under the Act, states specifically, that the applicant shall submit evidence acceptable to the minister as to the practical effectiveness and safety of the product and protocols of experiments establishing the comparative mammalian toxicity of any new material contained in the product. Furthermore, the Act gives the Minister the authority to refuse to register a pest control product if, in his opinion, it is believed to be unsuited for the purpose claimed or to be detrimental to vegetation, domestic animals, or public health, when used according to directions.

Evidence

Briefly, this means that the applicant for registration must submit evidence in support of his claims and directions for use and that, in absence of such evidence, the Minister takes the position that the product may not be effective and safe and refuses registration on this basis until the applicant can show otherwise.

Such evidence shall consist of reports of scientifically designed experiments. These reports should outline the conditions of the ex-



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(*From Page* 123)

periment, whether conducted in the laboratory under controlled conditions or in the field or orchard under natural conditions. They should record the details of the treatment, the number of replicates of the trial, and the observations on both treated populations and untreated checks, in such a manner that logical conclusions may be reached by a study of the data.

These are a few of the essentials of the scientific approach and I cannot stress too strongly the importance of the scientific approach. We recognize that this way of thinking is found in university departments and the research stations of government and their reports are most acceptable as evidence in support of applications. It is not obligatory, however, that submissions be based on reports from these sources alone. In all probability a manufacturer employs men or women who are trained to think and plan in conformity with the best scientific logic. Possibly manufacturers can find co-operators outside of their organizations who also can qualify in this regard. If so, their reports will be assessed according to their merits. It has been our experience, however, that the observations and reports of individuals who lack formal education in science are seldom sufficiently complete and comprehensive to lead to valid conclusions. Consequently, frequently they must be regarded merely as testimonials and testimonials are not regarded as evidence by the officials of the Pesticide Unit.

Effectiveness

Coming back to the requirements of the Act, the first requirement is that evidence shall establish the effectiveness of the product in the control of the pest when used according to directions.

It may seem strange that I find it necessary to mention this but in actual fact we have an application pending now in which the applicant investigated the use of a product on several thousand birds. The report gives the treatments in detail but records only the fact that none of the birds was killed. Nowhere was there any statement of observations on the effect of treatment on the pests concerned.

Evidence of effectiveness is required for all products and may I suggest to you that the most acceptable type of evidence is comparative. In other words, we prefer to receive reports of experiments in which the new material is compared to other well-known pesticides. At the same time, we expect that the report will include an untreated control or check so that we may draw comparisons in this direction also.

Additional Evidence

The need for additional evidence is determined by the nature of the product and the purpose for which it is intended to be used. If the product is to be used on pets or plants, the applicant may be expected to give evidence of the margin of safety to the host.

Could the host tolerate an application of five times or ten times the practical dosage without showing signs of detrimental effect? It would be even better if LD_{50} values could be supplied for acute and chronic exposure. These might involve oral or dermal or inhalation tests or any combination of these, depending on the nature, purpose and method of application of the product. Such data lead to a more reliable assessment of the safety factor at the recommended rates of application. We attempt at all times to confine our attention to pertinent factors so as to avoid requesting evidence that may be expensive to obtain and yet may yield little information of importance.

Hazards

While we are concerned over hazard to host animals and plants, where applicable, we are naturally concerned over hazard to human beings in every case. The degree of concern is determined by the nature and purpose of the product. In most cases it is not possible to accumulate satisfactory data from experiments involving human subjects and so we accept data from work on laboratory animals and attempt to extrapolate it to humans. It is only reasonable that we should include a substantial safety margin in the result of such an extrapolation.

I feel that a detailed discussion of our further requirements for assessment of hazardous pesticides is hardly necessary at this time since your particular interest is the chemical specialties. In general, your products are formulated from older, better known, less dangerous chemicals. Let me say briefly, therefore, that we would be prepared to request data on any of the following topics if, in our opinion, the submission of such evidence were essential in meeting the requirements of the Pest Control Products Act. Where necessary, therefore, evidence on hazard to desirable wild life or beneficial insect predators and parasites would be requested. Information on residues on stored foods or fabrics or on surfaces or packaging materials with which food would later be in contact might also be needed to assess a hazard. These and many other topics might be involved in the assessment of an application for registration.

Precautionary Labeling

One other point with regard to label cautions is perhaps worthy of mention. Your products are

(*Turn to Page* 143)

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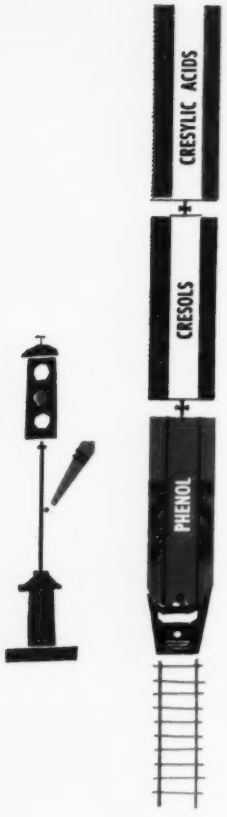
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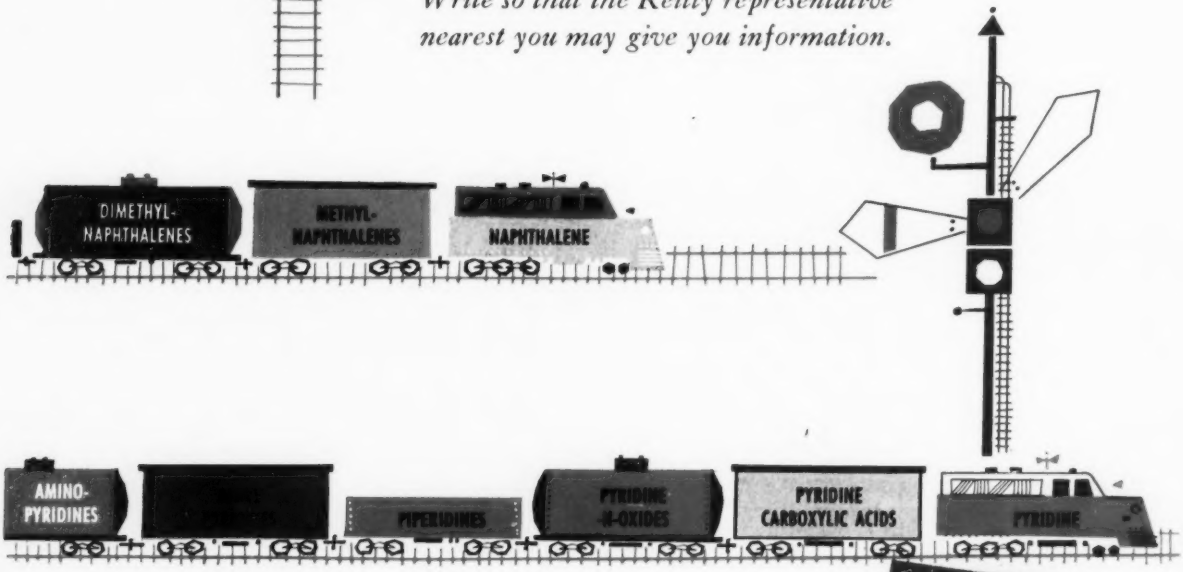
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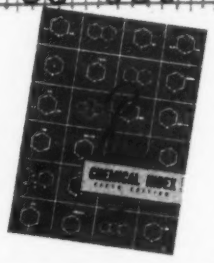
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By George W. Fiero*,
Esso Standard
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New York

AT the annual meeting of any organization it is customary for the president to review the accomplishments of the past year. It is not possible to give a complete report in the case of C.S.M.A. because of time limitations. Therefore, I will attempt to summarize just a few of the developments during 1960. These are true accomplishments resulting from the combined efforts of many members working toward a common goal.

One of the outstanding developments of the year was the enactment of the Federal Hazardous Substances Act. Our Precautionary Labeling Committee, under the leadership of Dr. Emil G. Klarmann, Lehn & Fink Products Corp., New York, has labored diligently for many years on this law and certainly deserves the congratulations of everyone. The committee has had the whole-hearted support and advice of Bob Ackerly, Cummings, Sellers, Reeves & Conner, CSMA legal counsel, Washington, D. C. This law is a boon to the consumer in the protection of health. It is also of great convenience to the manufacturer as it will probably enable him to label his product uniformly for the entire 50 states. It will doubtless serve as a guide, as have other federal laws, for state legislatures and should result in uniformity of labels. The importance of this law to our industry is indicated by the fact that it will be the subject of a paper at our general session.

In legislative matters our counsel, John Conner and Bob Ackerly, have also been very active in attending hearings of various state legislatures. They have also revised the Compilation of Economic Poison Laws. This will be a completely new publication and will replace the former compilation which was revised from time to time with looseleaf inserts. The type has been set for the revised edition, which should be published early in 1961.

While discussing federal legislation, I should point out that our Food Additives Committee, under Ed Weidlein, Union Carbide Corp., New York, has been very active. Since all extensions under this amendment expire in March, it is imperative that we be sure any of our products that may become food additives are covered by regulations of the Food & Drug Administration by that time.

Our division surveys continue to give us valuable information as to where our industry is going, and the progress it is making. It is regretted that one survey was discontinued because of lack of response by a few firms. Personally, I have always felt that such industry data are of great value to business. These surveys are among the many duties that have kept our secretary, Al Mulliken, busy.

Membership continued to grow in 1960 under the able leadership of our executive vice-president, Doc Hamilton. New members this year were 28, an increase of 7%, bringing our total up to 454. The committee has been very active contacting many firms which should be receiving C. S. M. A.'s valuable assistance and services.

The Policy Advisory Committee, headed by Gordon M. Baird, Baird & McGuire Co., Holbrook, Mass., consists of "old-timers," many of whom are past officers. This group guides the policies of the association. They meet four times a year to study the many problems referred to them and report their conclusions and recommendations to the Board of Governors. The importance of this committee cannot be overemphasized.

C.S.M.A. receives wide publicity and recognition of its activities. This is due to a hard working publicity and Public Relations Committee headed by Bob Hamilton, Antara Chemicals Div., General Aniline & Film Corp., New York. They spend many hours before meetings, in the press room at meetings, as well as between meetings to give us this excellent service. Consequently, this committee is largely responsible for the excellent reputation C.S.M.A. has received.

A special committee chairmanned by Ira P. MacNair, MacNair-Dorland Co., studied C.S.M.A. public relations activity and concluded that the association had grown to such an extent that it appears advisable to have continuous public relations by obtaining a new full-time employe trained in this field who could devote a good share of his time to publicity, as well as other assignments to assist our busy staff. This should re-

*Presented during 47th annual meeting, Chemical Specialties Manufacturers Assn., Dec. 5, 1960, Hollywood Beach, Fla.



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sult in further recognition of C.S.M.A. activities.

Our programs under the general chairmanship of vice-president, Charlie Allderdice, Bell Co., Chicago, both at Chicago and Hollywood were excellent. He was ably assisted by six division program chairmen who were responsible for the well attended division meetings. In addition to the general speakers, the committee was successful in obtaining government officials to discuss current subjects of interest to our members — Mr. Kirk on food additives and Mr. Goodrich on precautionary labeling.

Greetings . . .

Our Greetings Committee, headed by Bill Wallstein, West Chemical Products, Inc., Long Island City, N.Y., did yeoman service at both meetings welcoming new members and guests in true C.S.M.A. spirit. This is an important function, since often it is the first time many of these people have had personal contacts with C.S.M.A., and first impressions are always important. Any new members present will recognize persons of this committee by the "greetings" ribbons that they wear. Feel free to call upon them for answers to any questions about C.S.M.A.

Nominating . . .

Our Nominating Committee which consists of past presidents is headed, this year, by Len Oppenheimer, West Chemical Products. Because of the importance of this committee, it is essential that we have good leadership and an interested, active Board of Governors. This group held several meetings and came up with an excellent slate of officers to lead us in 1961.

Vendors . . .

The "Vendors to the Trade" continues to grow in numbers of suppliers listed and in its use by C.S.M.A. members and others. This was the brain-child of Mike Lemmermeyer, Aromatic Products Co., New York, who compiled the first edition in 1956. Copies of this publication are sent all over the world. The first edition listed 158 firms; it has now grown to over 236 firms.

Associate Members

In this connection, the Associate Members Committee under Henry Blanchford, MacLac Corp., New York, was extremely helpful in compiling lists for this book and also obtaining funds. The income amounted to almost five thousand dollars which was sufficient to cover the expenses, making it a self-liquidating project.

The problem of product certification has been under intensive study by a committee under the leadership of Al Bower. A lengthy report was given at the last meeting of the Board of Governors. This pointed out the number of agencies publishing lists of certified products and the cost for testing of such products. It is a serious problem that confronts many of our members and warrants further careful consideration by C.S.M.A.

Treasurer . . .

C.S.M.A. is well known throughout the world. It is a rare day when one or more letters are not received by the office from a foreign country requesting C.S.M.A. publications, standards, or other information. As you know, we have 30 foreign members in 12 countries. This year your treasurer, Fred Lodes, Lodes Aerosol Consultants, Inc., New York, represented C.S.M.A. at the Second International Congress of the Federation of European Aerosol Associations at Dusseldorf, Germany. His report was bulletined to the membership and also published. As a result, a liaison committee has been appointed to work closely with this foreign group.

I regret that time does not permit discussing the accomplishments of the 87 division committees and subcommittees. However, I do wish to report very briefly on the major events of each division.

Divisions . . .

The Aerosol Division, under the leadership of Ed McKernan, E. J. McKernan Co., continues to be extremely active. Probably the most important aerosol event of the year was the Symposium on Pharmaceutical Aerosols held in Chicago. This was well attended by pharmaceutical manufacturers and helped to expand the prestige of C.S.M.A. The aerosol publicity program, now in its third year, continues to be of great value to the industry.

The Automotive Division has been very active in the field of hydraulic fluids and has developed the first standard fluid. The Division has been largely responsible for hydraulic brake fluid laws in 19 states. By prohibiting the use of dangerous sub-standard fluids, accidents have been avoided and lives saved. Chairman of this very active division is Wes Weslager, E. I. du Pont de Nemours & Co., Wilmington, Del.

The Detergent and Cleaning Compound Division under Bill Jessop, U. S. Sanitary Specialties Corp., Chicago, in the past two years, has devoted its attention at each meeting to reviewing the status of industrially available synthetic detergents. These papers have been collated into a "Symposium on Surfactants" which has been published, and a large number of copies have been sold. Presently, the division is devoting itself to manufacturing and packaging problems. For example, the December meeting will discuss the use of water soluble packaging.

The Disinfectant and Sanitizers Division headed by Claude D'Angio, Airkem, Inc., New York, has been very active in establishing methods for testing disinfectants. The U. S. Department of Agriculture adopted the Use Dilution Confirmation Test as a criterion for disinfection; this was a direct result of cooperation with this division. Methods are being studied for testing aerosol contact disin-





Looking toward tomorrow, visualizing the shapes and courses it will take, anticipating its needs... this search for ways to serve industry better and more fully has been an unremitting spur to Sonneborn, since many tomorrows ago. Inasmuch as this quest dates back to the turn of the century and has been concentrated upon a specialized segment of petroleum refining, it is not surprising that in products, technical assistance, service, Sonneborn Goes Further.

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WO-10

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fection phenomenon and for residual micro-biological effectiveness on surfaces other than textiles.

The Insecticide Division chairman of which is Al Weed, Olin Mathieson Chemical Corp., Asheville, N. C., has developed a general publicity program using flannel board visual aids. These will be employed by health officers, U. S. Department of Agriculture extension agents, 4-H Club members and others in consumer talks on insects and their control. The Scientific and Chemical Analysis Committees have compiled a large number of test procedures and methods of analysis. Plans are underway to publish these as official C.S.M.A. test methods.

The Waxes and Floor Finishes Division, headed by Earl Brenn, raised over $8,000 to underwrite research on the use of floor waxes and polishes on all types of resilient flooring. The value of waxing all types of floors has been firmly established by this project. This was published in the last Proceedings and reprints will be sent to manufacturers, dealers and distributors of floor coverings.

Golf . . .

In a lighter vein, two C.S.M.A. golf tournaments were held this year — one in the East and one in Chicago. It was surprising to see how many golf enthusiasts we have — many came from Chicago for the Eastern Tournament and from New York for the Chicago affair. This will doubtless become an annual event with real competition for the C.S.M.A. cup. The champions are Gene McCauliff in the East, who barely nosed out Len Cannella who was champion in Chicago. Fred Lodes was general chairman, assisted by Al Mulliken in the East and Bob Svendsen and Charlie Allderdice in Chicago.

Our Wednesday evening banquets have always been a climax to our conventions. After three days of serious working meetings, we have always had excellent entertainment. George Barr, G. Barr & Co., Chicago, and his committee staged an outstanding show in Chicago. The present convention in Florida differs from our normal meetings in that it is in a resort hotel and many members' wives are accompanying them.

This, together with a longer session, required considerably more work on the part of the committee headed by Rusty Husted, Union Carbide Chemicals Co., New York. They were responsible for the party last evening, as well as those scheduled for other evenings to be climaxed by the banquet Thursday. In addition, Rusty worked with the Ladies' Committee in arranging details for the Cathy Barbi show presentation and the fashion show.

Open House . . .

Tuesday evening will be Suppliers Night. This will be sponsored by the suppliers who normally are active in our "Open House Night" at regular meetings. Len Cannella, Continental Can Co., New York, and his committee are responsible for this party tomorrow evening. From all reports, it will be a very lavish affair with many surprises.

C.S.M.A. has had a very successful year. With a group of hard working men — and I have mentioned only a very few of them— how could it have been otherwise? Looking ahead for the next decade, prospects for our industry are quite promising, particularly with the growth of new petroleum derived chemicals. Average non-farm family income should increase from $7,500 to $10,000. This will mean more money to be spent on service and convenience and should increase aerosol sales. Households may well increase by 8 million, thus increasing requirements for products such as insecticides, disinfectants, detergents, and waxes. Automobile production should reach 8 million units a year which, in turn, will require more automotive specialties. Population will increase from 180 to approximately 206 million; research and development will continue to supply new chemicals for products such as disinfectants and insecticides.

In this space age, an organization cannot stand still — it must go upward. We are on the right road — under the leadership of Charlie Beach, John C. Stalfort & Sons, Inc., Baltimore, we will continue to grow and prosper in 1961.

—★—

Ethers Data by Carbide

A 42-page booklet entitled "Ethers, Solvents, Extractants, Inert Reaction Media" has just become available from Union Carbide Chemicals Co., 270 Park Avenue, New York, 17. Ethyl ether, isopropyl ether, butyl ether and 1,4-dioxane and the glycol diethers are covered in the publication. The latter include diethyl, dibutyl and methyl ethyl "Carbitol."

Information on physical properties; solubilities; constant boiling mixtures; specification limits, and test methods is presented in text, tabular form and graphs. Storage, handling, and shipping data are given and selected literature references are appended.

Ethers are solvents for perfume oils, resins, waxes and many other materials. They are components of such chemical specialties as shoe cleaning formulations, paint and varnish removers, rubber cements, etc.

Glycol diethers are solvents and serve as components in hydraulic fluids, heat transfer media etc. Their applications range over a wide variety of industries.

—★—

Finch of Texize Speaks

W. Stanley Finch, director of sales training and public relations for Texize Chemicals, Inc., Greenville, S. C. and Palestine, Tex., spoke recently before the Columbia (S. C.) Advertising Club on sales motivation and selling.

Mr. Finch joined the Texize company as a salesman and rose to division manager before being named director of sales training for the firm. Texize makes household and industrial chemical specilaties.

Eastman now offers polish formulators 7 basic types of polyethylene

New Epolene resins enable you to formulate broader range of liquid and paste polishes

The wide range of physical properties now available in Eastman's Epolene series of low-molecular-weight polyethylene resins provides formulating flexibility never before possible. For with the addition of three new resins (Epolene LVE, HDE and HD), polish makers can choose now from among seven different types to improve existing formulations or to develop new products.

Epolene resins produce self-polishing floor polishes that exhibit high gloss, anti-slip, water-spotting resistance and rebuffability. Emulsions of up to 40% solids can be prepared. Properly formulated, polishes made from Epolene are low in color and do not darken or turn yellow. Neither do they build up color with repeated applications.

Choose from either emulsifiable or non-emulsifiable types to obtain the right formulating characteristics and performance properties for your equipment and service.

Epolene E *emulsifiable* • Epolene E produces water-emulsion floor polishes that exhibit an excellent balance of high gloss, hardness, durability and good resistance to water-spotting, scuff and dirt pick-up. Ideally suited for heavy traffic, polishes made from Epolene E exhibit extreme toughness due to its higher molecular weight.

Epolene LVE *emulsifiable* • Lower in melt viscosity than the other emulsifiable Epolene resins, Epolene LVE has somewhat better handling characteristics and is the easiest to emulsify. It is softer than other resins in the series, too, and therefore may be expected to contribute better anti-slip properties and rebuffability to floor polishes made from it.

Epolene HDE *emulsifiable* • The first high-density emulsifiable polyethylene available, Epolene HDE is much harder than other resins in the series, yet quite easy to handle. A film of unmodified Epolene HDE emulsion is almost as hard as a film from a finished floor-wax formulation (rebuffable type). This increased hardness is due not only to the nature of this high-density polyethylene, but also to the fact that it is more compatible with oleic acid than are other emulsifiable polyethylenes. Epolene HDE restores rebuffability to polymer-containing polish formulations without sacrificing hardness.

Epolene N *non-emulsifiable* • Epolene N can improve significantly the properties of paraffin, microcrystalline or other waxes and is easily blended with these materials. It can replace part or all of the hard waxes in solvent paste polishes, for example, automotive polishes. Such polishes are characterized by low color, excellent hardness and gloss, and remarkable durability.

Epolene LV *non-emulsifiable* • Epolene LV and Epolene N are useful in similar applications. The LV type is softer than Epolene N, however, and because of its lower melt viscosity is somewhat easier to handle.

Epolene HD *non-emulsifiable* • An extremely hard material, Epolene HD is nevertheless easy to handle because of its low melt viscosity. It has a high softening point, and may be blended with waxes to increase their melting points. Epolene HD has a higher density than the other non-emulsifiable polyethylenes in the series.

Epolene C *non-emulsifiable* • Higher in molecular weight (7000) but lowest in density (0.907) of all the Epolene resins, Epolene C may be used in modifying waxes to increase melting points or to improve toughness and gloss.

Type	Molecular Weight	Brookfield Viscosity (cps. @ 120°C.)	Density	Penetration Hardness (100g./5sec./ 77°F., 10ths of mm.)
Epolene E	2500	1500	0.938	2
Epolene HDE	1500	455	0.956	1
Epolene LVE	1500	400	0.939	5
Epolene N	2500	2500	0.928	1
Epolene HD	1500	340	0.938	0.5
Epolene LV	1500	360	0.925	3
Epolene C	7000	16,000	0.907	7

If you are using low-molecular-weight polyethylenes in your polishes, investigate the complete Epolene series. Your Eastman representative will gladly explain the advantages of each of the resins in the series and will show you how to realize the most profitable use of them in your formulations. Ask him for specific formulating assistance and about the new time-saving, cost-cutting emulsifying technique developed at our laboratories.

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EASTMAN low-molecular-weight polyethylene resins

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Chicago; Cincinnati; Cleveland; Detroit; Framingham, Massachusetts; Greensboro, North Carolina; Houston; New York; Philadelphia; St. Louis. **West Coast: Wilson and Geo. Meyer & Company,** San Francisco; Los Angeles; Portland; Salt Lake City; Seattle.

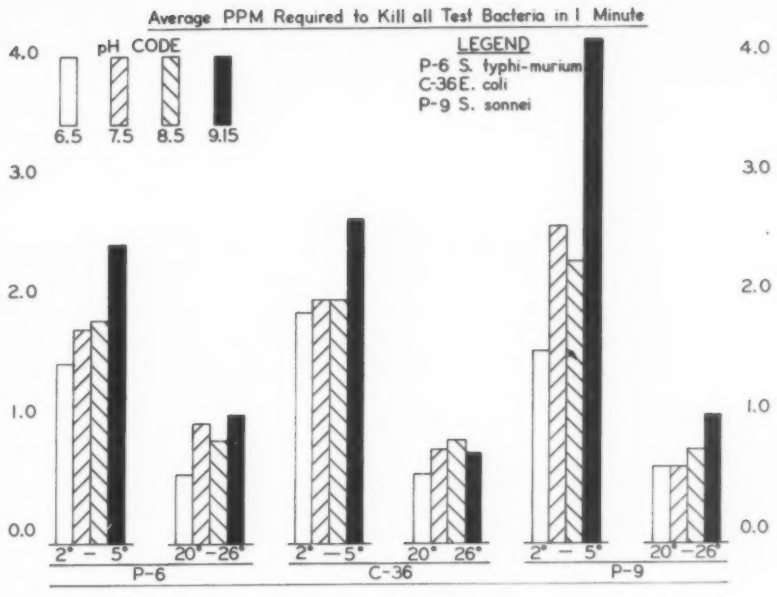
than three times the concentration required to kill at 20°-26°C.

Up to about 1950 iodine preparations offered the advantages listed in Table IX and had the drawbacks summarized in Table X. Mainly due to the latter, iodine preparations were not widely used before 1950, except for specialized skin disinfection.

As noted above, the solubility of iodine is much greater in certain organic solvents than in water. However, when organic-solvent preparations of iodine were diluted with water, as is necessary for many sanitizing purposes, the iodine tended to precipitate out. Furthermore, in applications leading to contact with the skin, many of these pre-1950 organic solvent preparations were excessively corrosive due to quick evaporation of the solvent and possibly other factors favoring corrosive action of iodine on tissue. Under such conditions, iodine is corrosive also to many metals and other materials.

Beginning in 1950, preparations were made using certain high molecular weight organic materials (usually surface-active agents) as solubilizers. Some of these materials are capable of solubilizing large quantities of iodine and keeping the iodine in solution when diluted with water. They can modify iodine's corrosive action and the vapor tension and odor of the solutions. Such preparations have come to be known as iodophors and have greatly extended the usefulness of iodine preparations in biocidal uses.

TABLE VIII



Literally iodophors are iodine carriers (*iodo*—iodine, *phor*—carrier). "An iodophor is a mixture of iodine and a carrier, in which the carrier is a compound that greatly increases the solubility of and tends to stabilize iodine in aqueous systems to reactants other than microorganisms. The effects of the combination of iodine with a carrier on iodine are as follows: 1) reduction of iodine vapor pressure to almost zero, 2) no permanent staining of skin or other tissues by iodine, 3) rate of chemical action of iodine is reduced by one or more of the following factors: a) intermolecular solution, b) addition compounds, and c) stearic hindrance from micelles or gel-like structure of concentrated carrier solutions." (4c)

Surface active agents (surfactants) or water-soluble polymers may act as carriers. A great many of these can solubilize iodine, including a number of anionic, cationic and nonionic surfactants. The various agents differ from each other in their ability to solubilize iodine and the stability, reactivity that is, the amount of free iodine (iodine liberated), viscosity, foaming, detergency, wetting action and other properties of the resulting iodophor.

Practically all commercial iodophors use nonionic detergents or surfactants as carriers. Nonionics provide better solubility, stability, reactivity, and other desired properties for the final product than do ionic surfactants. Even among nonionic detergents, there are marked differences in solubilizations and iodine carrying power in the characteristics imparted to the final iodophors. The alkylphenoxypolyglycol ethers have so far proved to be the most suitable, although usefulness of individual

Table IX. Advantages of Iodine
(Tinctures, colloidal, and NaI aqueous solutions)

Long history of use	Moderately irritating only
High activity	Wide pH range
Low concentrations	Own color indicator
Fast killing	Tests are available
Penetrating	Not affected by water hardness
Non-specific	Not affected by detergents
Low temp. coefficient	Inexpensive
Fairly low toxicity	Abundant supply

Table X. Disadvantages of Iodine
(Tinctures, colloidal, and NaI aqueous solutions)

Instability	Vapors irritating
Low solubility	Objectionable odor
Pcp. upon dilution	Primary irritant
High vapor pressure	Too reactive
Skin staining	Corrosive
Easily reduced by organic matter	

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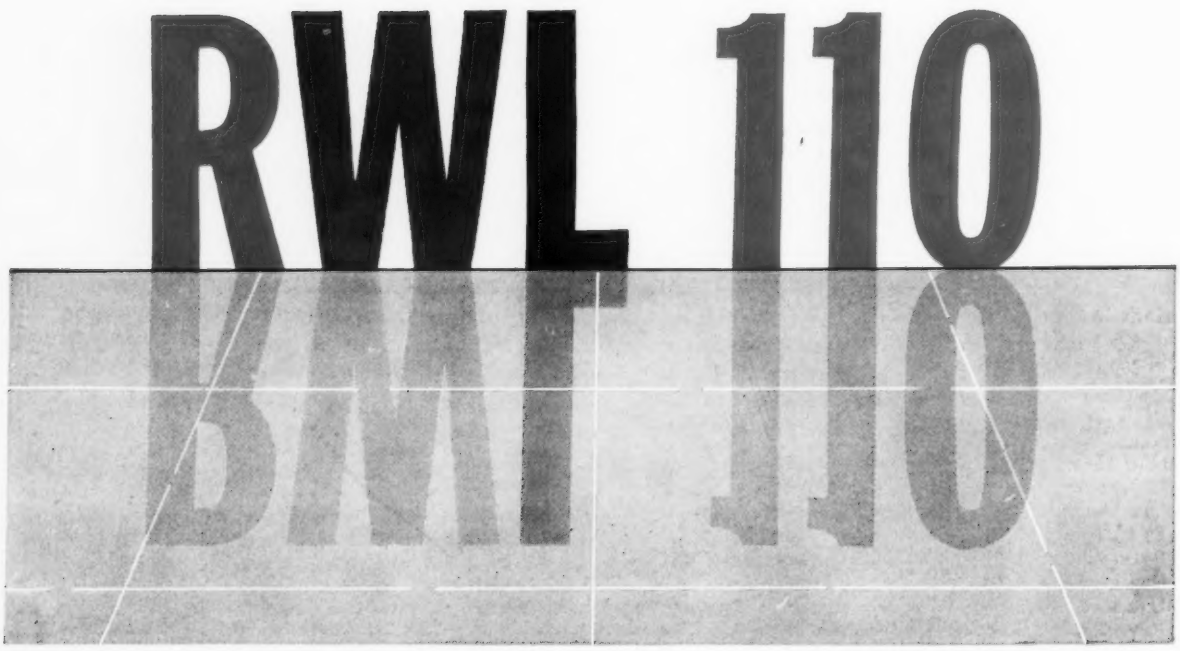
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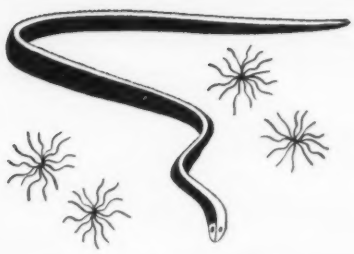
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TX-1 is a hard, high-melting emulsifiable resin-like wax, light brown in color, translucent in appearance.

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ATTENTION AEROSOL FORMULATORS: These waxes form true solutions in many organic liquids thus greatly simplifying aerosol formulation problems. No settling in the can! No clumps to block the orifice!

The oxazoline structure is unique among waxes, both natural and synthetic. From it comes *high adhesion, good wetting on hard surfaces* and *good lubricity. These waxes are compatible with most natural and synthetic waxes.* Stable gels or pastes are formed when they are dissolved in high concentrations in many organic liquids.

Because of these properties, TX-1 and TS-254 are expected to be useful in self-polishing floor waxes, paste polishes, leather, paper, and textile finishes, synthetic lubricants, metalworking lubricants, cosmetics, as mar-proofing agents in enamels, and as pigment grinding assistants.

There are four other oxazoline waxes also available. Let us discuss your specific problem and provide you with samples. Write on your letterhead to Market Development Department, Commercial Solvents Corporation, 260 Madison Avenue, New York 16, New York.

PHYSICAL PROPERTIES	TS-254	TX-1	ES-254	TS-254A	TS-254AA	TS-970
Melting point °C	63	160	37	50	53	74
Volume Expansion on melting—%	7.7	—	8.9	9.2	9.2	9.1
Penetration, ms/100 gm. load (ASTM D5-25)	0.2	—	1.3	0.3	0.4	0.1
Acid No. (approx.)	7	12	9	2	1-2	6
Solubility, % by wt. in:						
Butanol	7	49	50	22	13	4
Toluene	16	52	49	16	7	16
Carbon Tetrachloride	16	47	49	gel	14	gel
Stoddard Solvent	12	52	49	17	4	5
Butyl Acetate	11	55	49	13	9	6
Methyl Isobutyl Ketone	10	ins.	49	10	8	5
Turpentine	21	10	24	21	10	10

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compounds within this group varies widely. It depends upon particular alkyd groups and the proportion of polyglycol in the molecule, and the proportion of the different kinds of molecules present in the nonionic mixtures used.

Nonionic detergents in themselves have no significant biocidal properties. The biocidal properties of the iodophors formed depend primarily upon the amount of free iodine provided in solution. Practical usefulness of a particular nonionic as an iodine carrier depends, though, not only on its ability to carry and liberate free iodine, but also upon such properties as solubility, stability under various storage conditions, foaming, wetting, detergent properties, and so forth.

Iodine is more active in acid solutions, as pointed out earlier. Hence practically all iodophors in commercial use contain, in addition to iodine, nonionic carriers and water, some buffering agent capable of providing the desired pH in use solution. Phosphoric acid is most commonly used for this purpose, though other buffering agents may be employed.

The amount of iodine which can be taken up by various carriers varies from a small amount up to well over 20 per cent of iodine. However, not all of the iodine which is dissolved is available for biocidal uses. (4c, 4g) The proportion of iodine taken up which remains available for biocidal use depends upon the particular carrier and the method used for carrying out the solubilizing process. With the nonionics normally incorporated into commercial products, usually about 80 per cent of the total iodine dissolved remains available for biocidal use. (4t-p. 93) The remainder is presumably used up or tied up by reaction with the nonionic.

While it is possible to manufacture, ship, store, and use iodophors containing as much as from 10 to 20 per cent of available iodine, iodophors marketed for dairy and food-service sanitizing usually contain only from 1.25% to 1.75%. (If the products have USDA registration for interstate sale, the label on the container should show the active-iodine content.) These lower iodine contents make possible the manufacture of iodophors with better buffering and other properties than can currently be obtained in iodophors of very high available iodine content.

(To be continued)

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b. Reference 3b above, pages 329-330.
c. Reference 3r above.
d. Reference 3s above.

(*To be continued*)

Registering in Canada

(*From Page* 125)

primarily designed for use in special circumstances such as the household, the mill, or the food factory. There are certain use precautions which you should consider for inclusion in your label for protection from complaint or action for damages. They include warnings concerning possible damage to furs, plastics, asphalt floor tile, hazard of explosion, etc. The officers of the Pesticide Unit have not considered it necessary to study this aspect of the use of pesticides in detail. We feel that generally manufacturers, as part of an industry, have this area of danger well in hand. We will draw certain hazards of use to their attention when they occur to us and appear to have been overlooked. However, we must emphasize that the onus for correctness and completeness of the label is on the registrant at all times.

In conclusion let me say that the Pesticide Unit is handling an ever-increasing number of applications for registration under the Pest Control Products Act. The chemical specialties industry is submitting to us a steady flow of new chemicals which we must assess for compliance with the provisions of the Act and suitability for sale to the public. You are also sending us a considerable number of applications for the registration of established products for new uses. We have standards for acceptance of such applications and we are continually changing our standards to keep them in conformity with the new evidence you supply. We undertake our responsibility with due regard to the authority invested in us under the Act while, at the same time, doing our best to appreciate your problems and needs. I hope that we have discharged our responsibility satisfactorily during the past summer and I trust that we will be able to improve our efficiency as we gain further experience.■

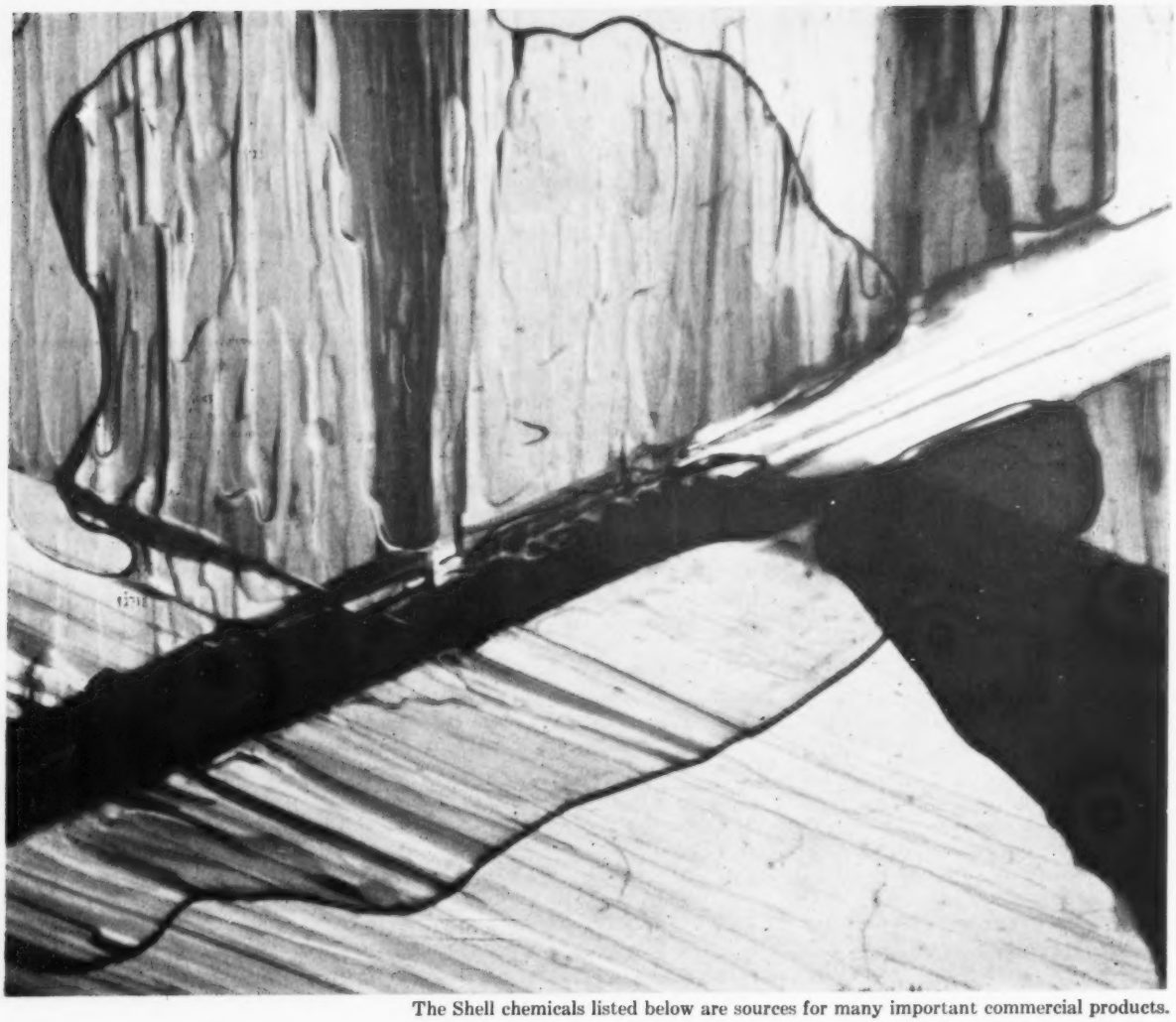
Polish Films

(*From Page* 119)

(Table 3). The somewhat enhanced flow properties of 140 films at 52 per cent R. H., (Fig. 3) especially noticeable at low rates of straining, indicated better resistance of mixed resin-high polymer films to stress failure under the

Table 3. Mechanical Properties of Films

Film Designation	% R.H.	Rate of Elongation, in./min.	Breaking Strength, psi	Elongation, %	Modulus, psi x 10^{-3}	Work-to-failure, psi x in.
110	98	0.05	8	25	0.18	1.8
		0.50	23	20	0.43	3.9
		1.00	39	40	0.92	12.7
		5.00	93	17	2.3	8.9
	52	0.05	65	0.7	7.3	0.21
		0.50	110	10	11.5	0.5
	20	0.05	75	0.4	22.1	0.15
		0.50	175	0.5	35.7	0.47
120	98	0.50	36	4.0	1.01	0.86
		1.00	48	2.5	2.1	0.71
		5.00	120	5.0	2.55	3.0
	52	0.05	50	2.3	2.5	0.61
		0.50	130	2.8	8.2	2.38
		1.00	130	1.5	8.7	
	20	0.10	90	3.8	3.6	1.98
		0.50	180	3.7	5.8	3.8
		1.00	220	4.8	9.7	7.5
130	98	0.05	35	430	0.16	135
		1.10	80	380	1.2	266
		0.50	375	72	11.1	250
		1.00	400	45	11.4	160
		5.00	570	8	13.2	
	52	0.10	100	230	2.8	2.25
		0.50	450	420	25.0	1600
		1.00	480	280	29.0	1115
	20	0.10	170	195	5	230
		0.50	760	175	31	1190
		1.00	830	220	44	1680
140	98	0.05	24	5.2	0.22	1.0
		0.50	98	4.5	0.52	7.2
		1.00	132	4.0		
		5.00	213	7.2	8.7	10.8
	52	0.05	260	5.3	16.2	10.5
		0.10	200	1.05	19.2	1.9
		0.50	285	1.25	20.5	2.4
	20	0.05	68	0.8		0.30
		0.50	160	7.5	23.0	0.65



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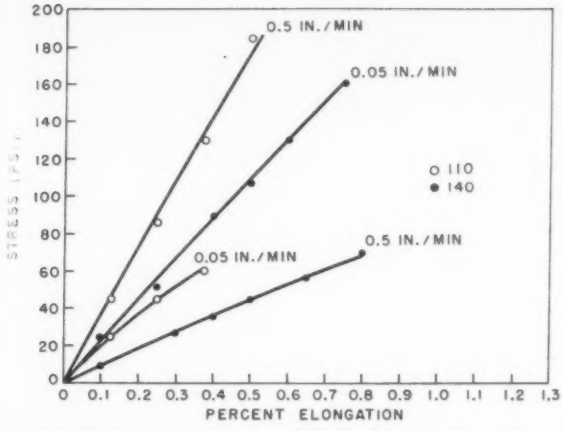


Fig. 9. Stress-strain behavior of 110 and 140 films at 20 per cent R.H.

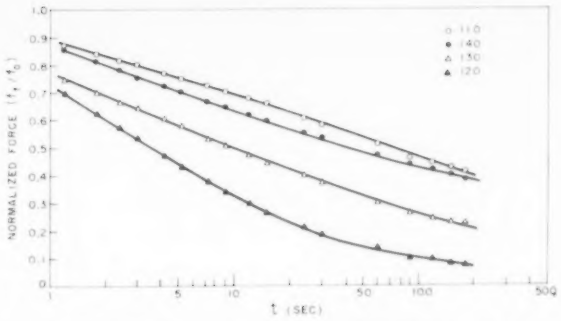


Fig. 10. Stress relaxation of 110, 130 and 140 films at 52 per cent R.H.

above test conditions.

Low modulus and breaking strength of 120 films and 52 per cent R. H. (Fig. 2) reflect the weakness of buffable films. However, energy dissipation through flow (stress relaxation) reduces the danger of immediate failure of these films in regions of local stress concentration, in which 110 would be most susceptible to breakdown.

Comparison of the stress-strain behavior of resinous and mixed resinous-polymer films at the median 52 per cent R. H. (Fig. 3) with 98 and 20 per cent R. H. (Figures 6 and 9) shows the expected relationship: Ultimate strength generally increases, while elongation decreases with decreasing moisture (plasticizer) content. A pronounced difference in mechanical properties was exhibited by 110 films at the transition from 52 to 98 per cent R. H. At the latter level, the material, predominantly elastic at lower moisture levels, acquired distinct viscous properties and surpassed the flow characteristics of 140 with an appreciable elongation of 25-40 per cent. This points to particular sensitivity of pure resinous films to high humidity, which could find a corollary in the performance of the parent emulsion in actual use under equivalent atmospheric conditions. The slight decrease in strength of 140 films at 20 per cent R. H. could be caused by enhanced stress-crazing tendency of samples with lower moisture content. Visual examination, however, did not disclose any unusual surface changes in specimens.

Inherent viscosity of 120 films masks plasticization by water to a greater extent. Unlike resinous films, buffable films gain very little in ultimate elongation on transition from 20 to 98 per cent R. H. (Figures 8, 5). Actually high humidity has a detrimental effect on these films because it weakens their strength without compensating for this loss by improving other mechanical properties.

The integrated area below the stress-strain curve represents the energy absorbed by a specimen at the point of failure. Table 3 shows the breaking energy relationship for films under given test conditions. Work-to-failure decreases with decreasing moisture content in 110 and 140 films, obviously as a result of the considerably reduced elongation of these films at low humidities.

A different picture is presented by 120 films. The breaking factor of these films increases with decreasing moisture content because of partial removal of the water plasticizer. This brings into better play elastic properties of this material and results in higher ultimate strength and greater value of the stress-elongation product. One might thus expect relatively good performance from buffable surface-care formulations at low humidities (20 per cent R. H.), while resinous-type emulsions should exhibit best mechanical behavior at levels above 50 per cent R. H. Comparison of work-to-failure values for 110 and 140 films indicates that a given formulation may be improved by appropriately changing the composition of the emulsion. Studies of the viscoelastic behavior of films prepared from formulations in which modifying agents have been used in known proportions should aid compounding of surface-care products with optimum properties.

Stress-Relaxation

When a viscoelastic material composed of long-chain molecules is stretched, the partly oriented molecules resist further deformation and stress is built up in a strained sample. If this sample is maintained at constant elongation, the molecular chains will tend to return to their unoriented equilibrium condition, their lowest energy state. In the process, secondary van der Waals bonds are broken and the chains rearrange to positions of greater stability. This change in configuration is associated with the observed stress decay in relaxation measurements.

Stress-relaxation of a simple viscoelastic material is classically represented by the behavior of a Maxwellian element consisting of an elastic (spring) and viscous (dash-pot) component arranged in series. The total displacement of such a unit, under stress, is the sum of the elastic deformation and viscous flow,



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$$\gamma = \frac{\sigma}{G} + \frac{\sigma}{\eta} t$$

where γ is deformation, σ is stress, G is the modulus of elasticity, η is the viscosity and t is time. On differentiation of the above equation with respect to time we obtain:

$$\frac{d\gamma}{dt} = \frac{1}{G}\frac{d\sigma}{dt} + \frac{\sigma}{\eta}$$

At constant elongation $(\frac{d\gamma}{dt} = 0)$ the stress-relaxation relationship can be expressed by

$$\sigma_t = \sigma_o e^{-G/\eta}$$

Obviously, a perfectly elastic body $(\eta = \infty)$ is capable of storing its potential energy without loss $(\sigma_t = \sigma_o)$. On the other hand, a viscoelastic material will exhibit stress-relaxation in proportion to G/η, the reciprocal of which defines the relaxation time. Since a combination of different relaxation mechanisms is operative in the configural rearrangement of molecular chains, the monotypic Maxwellian presentation grossly oversimplifies actual conditions in a viscoelastic polymer. Seldom does a semilogarithmic plot of stress vs. time result in a straight-line relationship. Instead, a curve indicating distribution of relaxation times, is obtained.

It is customary to present stress-relaxation properties in a simplified form by a plot of normalized force against time. Figures 10, 11 and 12 show the relaxation behavior of films at different moisture conditions. It can be seen that stress decays faster in 120 than in other films of the series. The rapid decay accounts for the viscous characteristics of the buffable polish. Hard, resinous films have a relatively strong elastic component at 20 per cent R. H., but seem to lose most of it at 98 per cent R. H., at which level the rate of stress relaxation exceeded that of mixed resinous-polymer films. Thus 110 films show maximum susceptibility to water plasticization. Although 130 films exhibit relaxation, they are not seriously affected by moisture variations as resinous and buffable films. Evidence previously obtained from stress-strain measurements is thus corroborated by relaxation data.

Summary

A study of mechanical behavior of films prepared by casting of emulsion-type surface-care formulations on liquid mercury, disclosed dependence of stress-strain and stress-relaxation properties on the composition of these films and on humidity conditions. Measurements performed at different rates of elongation indicated the presence of a viscous component which became more pronounced with increasing humidity, as a result of plasticization by water. At 52 per cent R. H., resinous films (110) exhibited distinct elastic behavior, while a considerable tendency toward flow was found in polymer-based (130) and buffable (120) films. The relatively low strength of the latter typifies the behaivor of low molecular weight materials. Polymer-based films were characterized by exceptional toughness as demonstrated by appreciable strength and significant elongation. Comparison between resinous and mixed resinous-polymer films (140) revealed a greater viscous component in the latter at 52 per cent R. H. The observed differences, however, became insignificant at lower moisture conditions (20 per cent R. H.).

The equilibrium moisture content at a given humidity varied between different samples, and at 52 per cent R. H., the median test conditions, they amounted to 12.1; 3.0; 2.7; and 4.6 per cent for 110, 120, 130 and 140 films respectively. The relatively high water content in resinous films compared with polymer base or mixed resinous-polymer films did not decisively affect their toughness. Apparently, chemical composition of emulsions exerts a dominating influence on mechanical properties of films.

Stress-strain and stress-relaxation behavior may indicate performance characteristics of films. It is believed that information derived from these studies will permit better evaluation of surface finishes and will provide data for the development of formulations with optimum performance characteristics.■

Acknowledgments

The support of this study by S. C. Johnson and Son, Inc., and the permission to publish this work are gratefully acknowledged. The author also wants to express his appreciation to Dr. John W. Pearce and Dr. E. Sheppard for helpful suggestions offered in the course of this study and wishes to thank E. J. Latos and F. Pizzarello for their assistance in experimental measurements.

Fig. 11. Stress relaxation of 110, 120, 130 and 140 films at 20 per cent R.H.

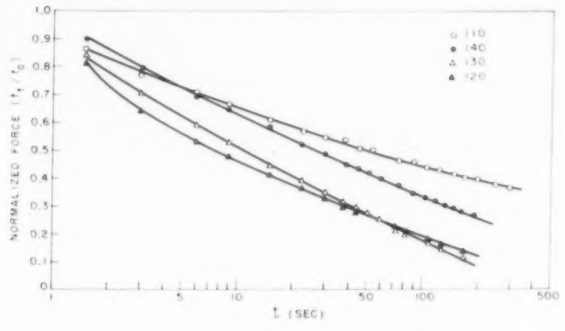
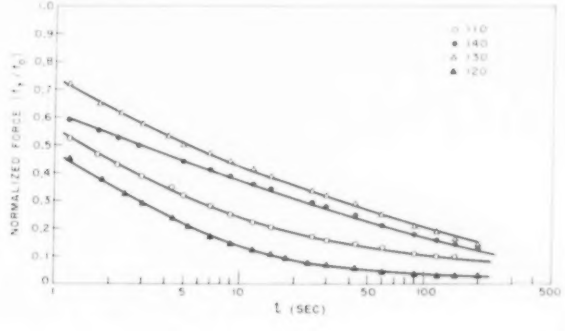


Fig. 12. Stress relaxation of 110, 120, 130 and 140 films at 98 per cent R.H.



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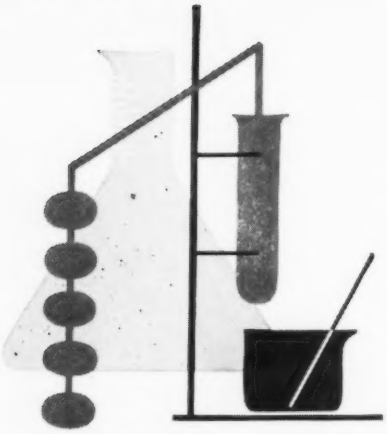
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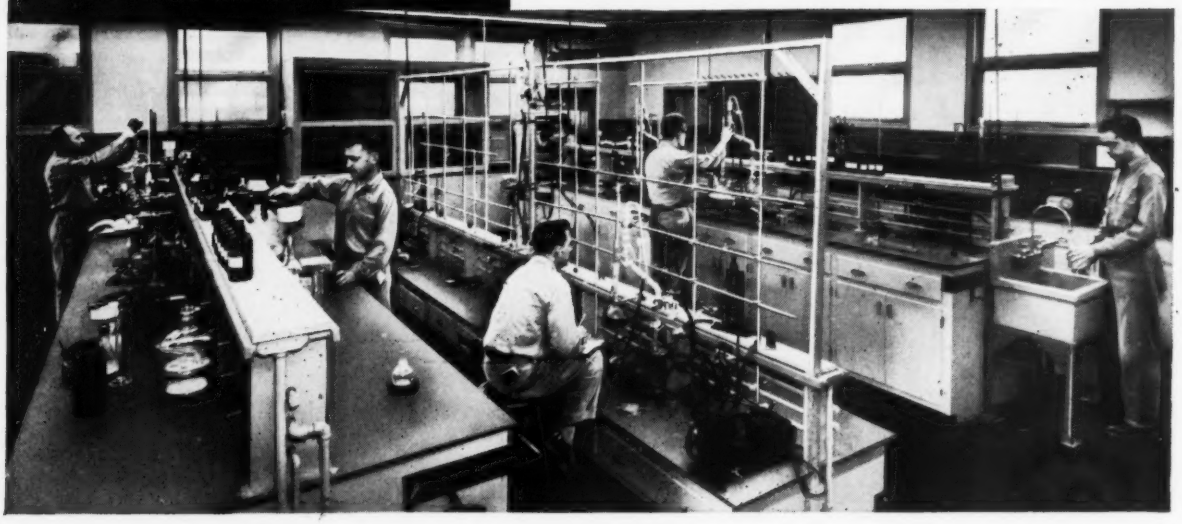


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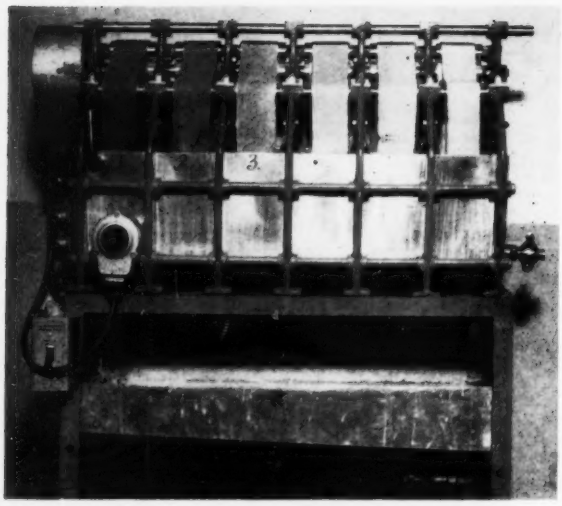


Figure 9. Ribbon washing machine developed by I. G. Farbenindustrie, A.G., manufactured by Schwietzke Metallwerke, Krefeld, West Germany.

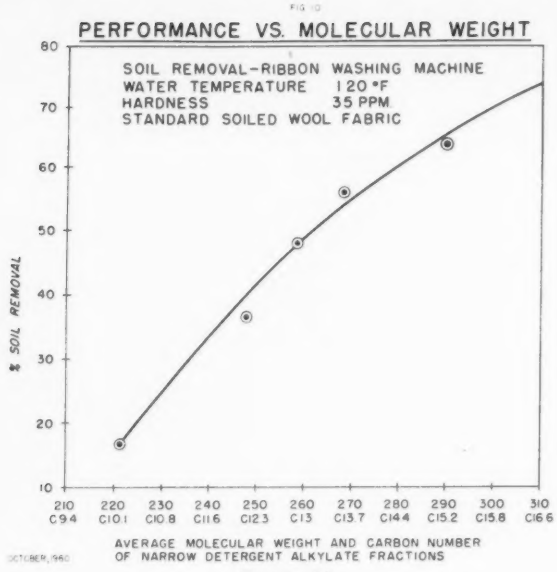


Figure 10

Detergent Alkylates

(From Page 60)

research department. A picture of this machine is given in Figure 9. This ribbon washing machine is based on the design of a so-called broad washing machine used for washing full widths of fine cloth by the textile industry. The cloth remains completely level during the whole washing process and the mechanical action is provided by two squeezing cylinders which take out of the cloth, fully soaked with washing liquid, about ⅔ to ¾ of the amount of liquid at each passage. After squeezing, the half dried part of the endless cloth ribbon passes again through the original wash liquid at the bottom of the trough and becomes again fully soaked for the next run around. As you can see from Figure 9, excellent differentiation can be obtained if different alkyl benzene sulphonates are being used.

Figure 10 shows the percent of soil removed from a soiled wool cloth by washing the test fabric with detergents formulated from alkyl benzenes of different molecular weight. These experimental data were obtained in the ribbon washing machine shown in Figure 9. It is apparent from the data that the soil removal performance of an alkyl benzene sulphonate increases with the molecular weight of the alkyl benzene.

In practice, synthetic detergent formulations contain a foam stabilizer. Therefore, it is of interest to examine the effect of foam stabilizer concentration on soil removal and also if this effect can not be offset by selecting a higher molecular weight alkyl benzene.

Figure 11 presents the experimental data and shows that percent soil removal increases with increasing foam additive concentration and that for the equivalent percent soil removal a saving in foam additive can be made in the formulation by using an alkyl benzene of higher molecular weight.

One of the advantages that a synthetic detergent has over soap is that the "ring on the tub" goes down the drain. However, it should be realized that while the synthetic detergent is stable in hard water, that is, it does not form "insoluble soaps" in hard water like soap, the performance characteristics can nevertheless be influenced by the hardness of the water.

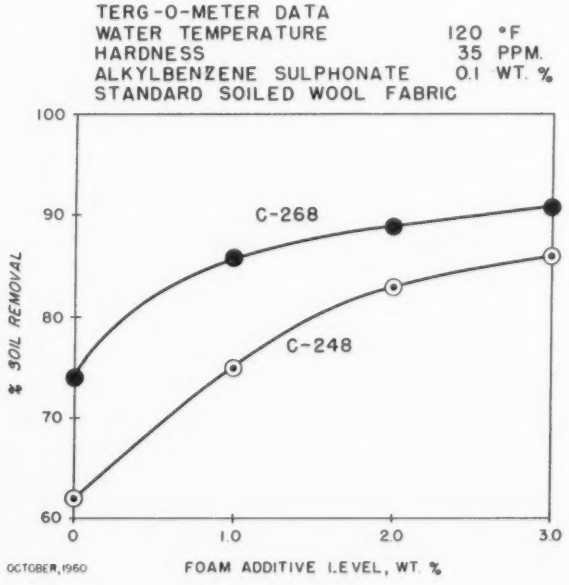


Figure 11. Washing performance of detergent alkylates.

Experimental data are available which indicate that if the molecular weight of the alkyl benzene is held constant the foam characteristics will decrease with increase in water hardness. It is also true that in soft water (35 ppm) the alkyl benzene with the higher molecular weight will have the better foam properties; however, this relationship is reversed as the water hardness increases. Data have been obtained which show that at 245 ppm grain hardness the lower the molecular weight the better the foam characteristics.

You may be interested in the type of foam tester used to obtain this experimental information. Recently we began using a test method which has been used in Europe for some time and which we believe will be extremely useful in studying the foaming characteristics of alkyl benzenes or other synthetic detergent components under various conditions. Figures 12 and 13 show photographs of this laboratory foam testing equipment.

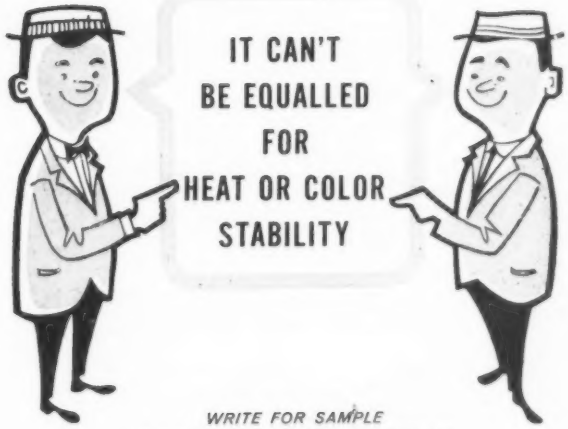
The solubility of the alkyl benzene sulfonate can have an effect on performance and has this to be taken into consideration when formulating powdered and liquid detergents. The higher the molecular weight of the alkyl benzene the poorer the solubility. Therefore, if

Figure 12. Dr. Goette's foam testing machine DIN 53902, available from Erhardt & Lermer OHG, Augsburg, West Germany, Leitershofer Strasse 80.



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a soaper decides to use a higher molecular weight alkyl benzene than is being used in current formulations in order to obtain some of the performance advantages already mentioned, it may be necessary to incorporate modifications in the formulation which will offset the lower solubility of the alkyl benzene sulphonate.

In order to assist the soaper in selecting an alkyl benzene which will have the widest application in his formulations Imperial has introduced to the trade three grades of detergent alkylate. The typical inspections for these products have already been given in Table I and it is apparent from the material presented herein that these alkyl benzenes will have different performance properties depending on their molecular weights. By offering three products to the trade we believe the soaper can select the product which has the best overall performance characteristics for his particular application.

Table 2 shows the perform-

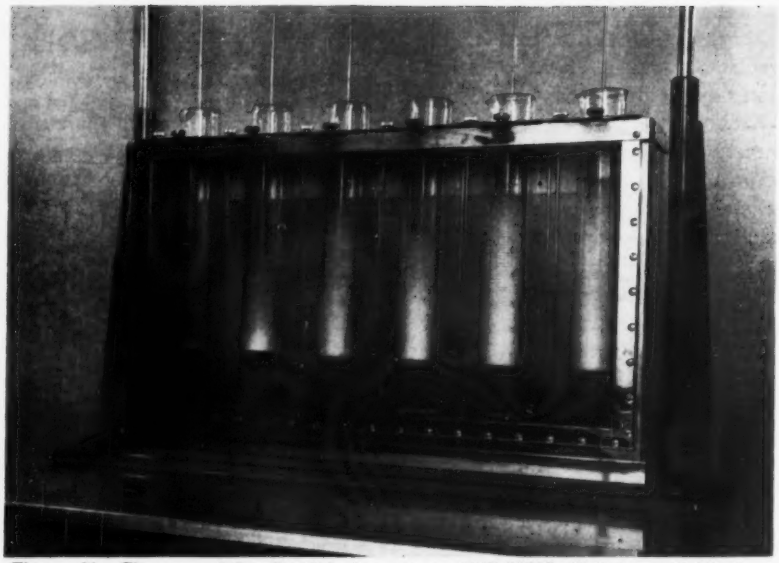


Figure 13. Close-up of Dr. Goette's foam tester DIN 53902. Unit is available from Erhardt & Lermer OHG, Leitershofer Strasse 80, Augsburg, W. Germany.

TABLE 2. Performance Characteristics of Detergent Alkylates

Grade	C-248	C-258	C-268
Molecular weight	248	260	268
Performance			
Number of plates washed	18	25	26
Relative soil removal	100	118	136
Percent decrease in foam volume with change in water hardness	32	36	49
Cloud point °F	105	135	160

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ance characteristics of Imperial's detergent alkylate in terms of the various performance tests outlined in this presentation.

We consider that our detergent alkylate C-258 has the good dishwashing foam characteristics of the highest molecular weight product commerically available – C-268 – and is very close in performance to the currently available products, such as C-248, in terms of foam characteristics in waters of various hardness. The soil removal properties are an improvement over C-248–while at the same time the decrease in the solubility is small enough that it can be compensated for by modification in formulation.

Thus C-258 appears to possess a balance of performance characteristics which will permit its application in a variety of synthetic detergent formulations.■

—★—

Solvay Expands Facilities

Plans for expansion of chlorine-caustic soda facilities at Moundsville, W. Va., were announced recently by Solvay Process division, Allied Chemical Corp., New York.

The new facilities, scheduled for completion in 1961, will increase production by approximately 20,000 tons annually.

The Moundsville installation is one of four chlorine-caustic soda plants operated by Solvay. Other products manufactured there are methyl chloride, methylene chloride, chloroform, carbon tetrachloride and vinyl chloride monomer.

—★—

Carbide's New Nonionics

Five new nonionic surfactants have been introduced by Union Carbide Chemical Co., division of Union Carbide Corp., New York, for use in chemical, detergent, paint, cosmetic, rubber, dry cleaning, and textile industries.

Three of the new surfactants –"Tergitol" nonionics 12-P-6, 12-P-9, and 12-P-12–are based on dodecyl phenol. Two are based on trimethyl nonanol – "Tergitol" nonionics TMN-3 and TMN-10.

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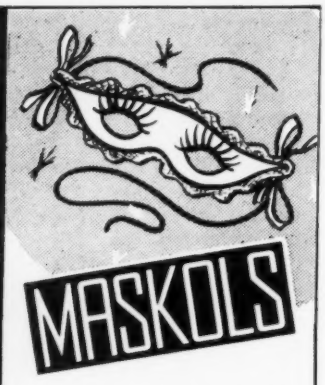
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CSMA Meeting

(*From Page 93*)

elists include: Richard B. Wearn, Colgate-Palmolive Co., Jersey City, N. J.; David F. Lowry, Borden Chemical Co., Division of Borden Co., New York; W. J. Vogel, Reynolds Metals Co., Richmond, Va., and Fred W. Stone, Union Carbide Chemicals Co., South Charleston, W. Va.

The second portion of the Detergent and Cleaning Compounds Division program will begin with a discussion of "Ultrasonic Cleaning," by Severn S. Carlson of Circo Ultrasonic Corp., Clark, N. J. This will be followed by "A Report on a New Alkanolamide for Use with Phenolic Type Germicides," presented by Chester F. Moculeski and Loretta Ciszak of Clintwood Chemical Co., Chicago. Final Paper of the session will be "A Rapid Photographic Method for Evaluation of Bleaching Agents," by Raymond L. Liss and Thomas B. Hilton of Monsanto Chemical Co., St. Louis, Mo.

The concurrent session of the Insecticide Division will hear reports by five committee chairmen. "The Role of Chemistry in the Administration of the Federal Insecticide, Fungicide, and Rodenticide Act" will be outlined in a paper by Thomas H. Harris, Clarence G. Donovan and Robert L. Caswell, U. S. Department of Agriculture, Washington, D. C. Jane Lewis of Business and Defense Services Administration, U.S. Department of Commerce, Washington, D. C. will describe the role of her agency in government and industry activities.

Also meeting on Tuesday morning, Dec. 5, will be the Waxes and Floor Finishes Division. Earl Brenn, Huntington Laboratories, Inc., Huntington, Ind., chairman of the division will present a paper entitled "Product Certification of Chemical Specialties is Harmful." "Concentrated Floor Polish Formulations" will be discussed by Klaus S. Treviranus and Robert J. Turner, Morton Chemical Co., Woodstock, Ill. "The Future of Polymers in Floor Polishes" will be viewed by Richard H. Cahill and Lloyd H. Perry, UBS Chemical Corp., Cambridge, Mass. Various aspects of emulsion technology will receive attention in a number of contributions.

The evening of Tuesday, Dec. 6, will be "Suppliers' Night," consisting of a cocktail party, buffet supper, and entertainment.

The Aerosol Division's meeting on Wednesday morning, Dec. 7, will open with three talks on business topics. Elliott Averett, The Bank of New York, will speak on "Financing Growth Industries." The next speaker, James Sheridan of Allied Chemical Corp., New York, will discuss "Credit Fundamentals: Dynamic or Static?" and John A. Willis, Union Carbide Corp., New York, concludes with a report on "Guideposts for Evaluating Profit Performance."

A panel discussion on "Quality Control in the Filler's Plant," rounds out the Aerosol Division session, Dec. 7. Eleven participants will spotlight quality control as it affects the different components of the pressure package, including valves, containers, propellants, and concentrates. Special quality control measures pertaining to the filling of pharmaceuticals and food products will be discussed. Needs of the manufacturer using the contract loader's services will be outlined and statistical quality control

George W. Fiero,
president





Charles E. Beach,
first vice-president

applied to aerosol filling will receive attention.

The program for the Disinfectants and Sanitizers Division session on Dec. 7, will consist of a four part discussion of "Merchandising Antimicrobial Products —Problems and Opportunities." The subject wil be covered from the standpoints of the marketer, household consumer, institutional user and manufacturer of disinfectants. Arnold Lada, Onyx Chemical Corp., Jersey City, N. J., will be moderator for the panel. Speakers include Eugene N. Kramer, Sears, Roebuck and Co., Chicago, whose topic is "Antimicrobial Additives — The Merchant's Viewpoint and Responsibility." Mrs. Esther McCabe of Parents' Magazine will speak on antimicrobials from the viewpoint of a consumer magazine. " . . . The Hospital Housekeeper's Viewpoint (of) Disinfectants" will be covered by Mrs. Willard K. Tew, University Hospital, Jackson, Miss. The final panelist, Leonard J. Oppenheimer, West Chemical Products, Inc., Long Island City, N. Y., will speak on "The Genesis of Disinfectants."

The third concurrent session, scheduled for Wednesday morning, Dec. 7, that of the Automotive Division, will hear of "A New Chemical Lubricant," in a presentation of that title by Walter A. Hall. Mr. Hall is connected with the Marshall Laboratory, Philadelphia, of E. I. du Pont de Nemours & Co., Wilmington, Del. Other subjects to be discussed at the Automotive Division meeting are year round coolants, inhibited antifreezes for cast aluminum, and brake fluids. There will also be reports by six committee chairman of the division.

One of the highlights of the second general session on Thursday morning, Dec. 8, will be the presentation of the 1960 CSMA Achievement Award to Ira P. MacNair, president of MacNair-Dorland Co., New York. Dr. George W. Fiero, CSMA president, will make the presentation. Earlier, reports of CSMA officers will be presented by A. A. Mulliken, secretary; Frederick G. Lodes, treasurer, and John D. Conner, Cummings, Sellers, Reeves and Conner, association counsel.

The Thursday morning (Dec. 8) session concludes with talks by Lee Thompson, Commissioner, and Doyle Conner, Commissioner-elect, of The Florida Department of Agriculture, Tallahassee.

Social Events

In addition to the "get acquainted" party on Sunday evening, Dec. 4, social events include cocktail parties Monday and Tuesday evening, Dec. 5 and 6, as well as Thursday evening, Dec. 8. There will be a variety show at 9:30 p.m. in the Mayfair room, following dinner in the Regency room on Monday evening, Dec. 5. A buffet supper in the Regency room and music and dancing in the Mayfair room will be the feature of Tuesday evening, Dec. 6, when suppliers play host. No regular cocktail party or group dinner is slated for Wednesday evening, Dec. 7.

A fashion show will be held at 2:00 p.m. at the poolside on Thursday, Dec. 8. At 6:30 p.m. a cocktail party will be held in the Gardens, and this will be followed by a special dinner in the Mayfair room. A variety show is planned for this, the final, evening of the meeting, at which time there will be distribution of prizes, and dancing.■



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Carbide Reassigns Four

Union Carbide Chemical Co., division of Union Carbide Corp., New York, announced recently the assignment of four salesmen.

William J. Friedemann, previously a technical representative in the Houston district sales office, has been assigned to field sales in the Cleveland district.

Having completed a company training program, the following men have been assigned as technical representatives in Carbide's district sales offices: Peter F. Decker, New York; Joseph P. Hester, Houston; William A. Krebs, Newark.

Technical Service

(*From Page* 99)

because the need is minor in this area. In such cases, test samples are placed where we are familiar with shop practices and can expect sincere answers to our questions.

Once initial testing has been accomplished in one or both of the areas noted above, further testing may be desirable or necessary, of a scope not practical through our own efforts. Use of test laboratories or field test facilities has proven profitable many times. Here are offered truck and car fleets for large scale testing, cold chambers big enough to hold an entire automobile, and other facilities normally unavailable to us. Where patterns may be desirable as in testing floor waxes, again, the independent laboratory may be our only recourse. As a check against one independent laboratory report on a floor wax test, we once called 70 housewives at random, using the local telephone directory. We asked if we could clean and wax their floors, maintaining them for several weeks until we were satisfied with the information gleaned. We had only three turn-downs in the group called, results were favorable, goodwill established, and many excellent cups of coffee con-

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sumed. It would appear that a large and relatively untapped test market exists in this area.

There is one other problem which arises in field testing of products for which we do not possess facilities ourselves, and they are unavailable locally, and not offered by any independent group. Aviation products may fall into this category, as well as many government products, plastic coatings, hospital sanitizers, and similar materials. Where testing is required, where a product is to be placed on a qualified list, etc., technical service will arrange such tests. It will act as operator, or, if this is not allowed, as observer and report tests to the proper divisions. Such tests, or for that matter, any field testing, may frequently be carried out in conjunction with, and by advice of, either research laboratories or a sales division, or both.

Testing outside of technical service areas may also be done for confirmation purposes, where test results may be in doubt, or where results may be inconclusive or incomplete. For many of our customers, confirmation by independents is desirable, and such confirmation is often a measure of our good faith in supplying quality products.

While technical service establishes and performs (or otherwise arranges), field testing programs, it is essential that it does not fall into the trap of screening research formulations. This can add a substantial load to the department's business without any concrete results. Formulas to be field tested should be formulas finished to the best ability of the research group concerned. Technical service, of course, will act as consultant and advisor for screening tests to be done by research laboratories. Only where such testing is obviously impractical, or impossible for research, will technical service assume any screening responsibilities.

Since any knowledge is worthless without communication, such communciation is a large part of the technical service function. Information must be available at all times, concerning our own products, competitive products, and any processes, machines or equipment which may affect the use of these products. It has been estimated at Hollingshead that over 6000 formulas have been produced and utilized since the founding of the firm. In any one year, between 300 and 400 formulas find their way through manufacturing processes into finished products.

Diversification runs the gamut from products for automobiles to those used in jet aircraft, from disinfectants and bactericides to floor cleaners and waxes, from plastic linings for pipes and tunnel walls to cigarette lighter fluids, from drain pipe cleaners to radiation resistant cloth impregnation compounds. Information on these products may consist of a simple product bulletin, a complex demonstration, a photograph, advice on a television commercial, a precautionary label suggestion, or any one of a hundred answers to the hundred questions asked daily. Salesmen must be informed on products, demonstrations and demonstration kits developed, audio and visual devices created.

In conclusion, technical service is an important part of any chemical specialty firm. Product knowledge is indispensable whether handled by an individual or a large, specialized staff. Chemical processes and products need explanation, and in terms which any layman can easily understand. This is true whether the layman be an executive, salesman, distributor, jobber, dealer or final consumer. Technical information must be communicated and technical service is the ideal center for such communication. On technical service rests the responsibility to contribute to and to implement corporate integrity, product quality, and final customer satisfaction and the duty to see that these assets are understood and preserved throughout the corporate structure.



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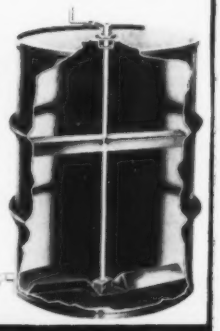
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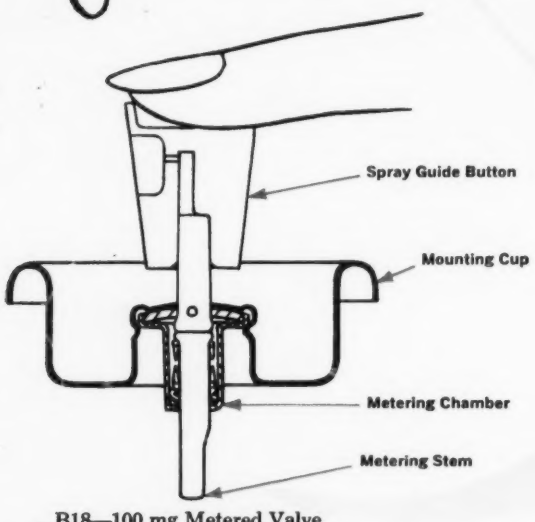
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The big – the small – we love them all. Metro always has been interested in the company on its way up – as well as the one that's arrived. Be it beer or baby food, soluble coffee or spirits, peanuts or pickles, away we go with research, marketing and solid production. The measure of Metro is not only the size of companies we serve–but, more important, their quality standards. They want the best and they get what they want – and more – with ***Metromatic!***

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Clayton "Nozzle Down" Valves and Covers top all dispensing combinations for foam, cream or liquid products. Completely assembled valves of various types and designs are available with flow rates and materials to meet specific product requirements. Orifices are non-clogging, assure uniform gassing, pressure-fill at highest speeds. Exclusive positive-action screw cover—NOW AVAILABLE IN NEW DESIGN—provides complete protection... prevents accidental discharge. Give your product the most trouble-free dispensing combination known... the valve and cover that has been TIME TESTED AND PROVED ON HUNDREDS OF MILLIONS OF CONTAINERS.

Clayton
"NOZZLE DOWN"
dispensing valves and covers

CLAYTON CORPORATION • 4205 FOREST PARK BOULEVARD
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Attach this ad to your calling card and mail today for ☐ free literature, or ☐ a meeting with your local "Vulcansultant" a technical man who can help you with your container problems. Please check Vulcan Associated plant or plants nearest you: ☐ Bellwood, Ill. ☐ Birmingham, Ala. ☐ Peabody, Mass. ☐ Dallas, Tex. ☐ San Leandro, Calif. ☐ Rexdale, Ont. ☐ New Westminster, B.C.

VULCAN CONTAINERS INC., *Bellwood, Illinois, Phone: LInden 4-5000/(DDD-312), TWX: BWD 2375* SCS-120

packaging notes

IMCO Appoints Norwell

Tom Norwell has been appointed sales representative (in Montreal) of IMCO Container



Tom Norwell

(Canada) Ltd., a subsidiary of Rexall Drug & Chemical Co., it was announced recently.

IMCO maintains a manufacturing plant and sales office in Cooksville, Ontario.

—★—

Tex-ite Expands

Tex-ite Products Corp., 859 East 43 Street, Brooklyn, recently acquired 40,000 additional feet of space adjacent to its present buildings, Arthur Kaye, president, announced. Tex-ite is a custom compounder and packager of chemical specialties. The new building to be erected on the site will house blending and packaging equipment expected to increase the firm's output by 40 per cent.

The new plant will include a blender and packager for spray-dried fragile material. Air-tight, moisture proof material handling and blending equipment for hygroscopic materials is another feature of the proposed facilities.

Large enough for freight, hopper and tank cars to unload inside, the building will accommodate six trailer trucks simultaneously. The facilities will include over 200,000 cubic feet of warehousing space, with a tank farm for liquid storage, adjacent to the railroad siding.

—★—

Changes at Brockway

A. G. Beltz, general sales manager of Brockway Glass Co., Brockway, Pa., announced recently William T. Graff, Jr., formerly the Tygart Valley representative in New York City, joins Brockway's New York sales force, and T. G. Braithwaite, Tygart Valley's Chicago representative, is now a member of Brockway's Chicago sales staff.

William D. Borland has been transferred from the Buffalo sales office to Chicago, and Charles O. Krouse has been transferred from the food sales division to the Cincinnati sales office.

John P. Hetreck joins Brockway as a sales service assistant assigned to the pharmaceutical and proprietary division, and Miss Gladys Graff, formerly associated with the Tygart Valley sales office in New York, is now a member of the Brockway-Tygart Valley New York sales office.

—★—

Luviano Elected Vice-Pres.

John J. Luviano was elected vice-president—machinery division, of Crown Cork & Seal Co., Philadelphia, John F. Connelly, president, announced recently.

Mr. Luviano will head the company's expanded machinery activity in the food and beverage industries. In 1961, the company will expand its activities in the food packaging field with newly designed equipment for nitrogen packaging.

With the company eight years, he holds an engineering degree from the U. S. Merchant Marine Academy, as well as a degree in economics from Iona College.

New Soap Powder Package

The consumer products division of Unexcelled Chemical Corp., New Canaan, Conn., recent-



ly revised the packaging of its "Trav Wonder Suds" soap powder in an effort to widen distribution and sales. The product is a soap powder packed in an envelope for wash basin laundering.

The new packaging, aluminum foil cartons, with bright metallic gold finish, carry product name in "sculptured" lettering. In addition, use directions are now on the outside of the carton. In contrast to its previous packaging in 32 different sized packs, "Trav Wonder Suds" now comes in only two sizes: a 21-packet unit at $1, and a 66-packet unit at $2.75. The travel-sized soap powder was introduced by Trav Co., which was acquired earlier by Unexcelled.

—★—

Brockway Sales Rise

Brockway Glass Co., Brockway, Pa., announced recently net sales for the fiscal year ended September 30, 1960, of $52,632,661, including the sales of its newly acquired subsidiary, Celluplastics, Inc., Newark, N.J., for the full year.



Celanese *Introduces*

THE Royal "DESIGNER" BOTTLE

the advantages of custom design—the economy of stock prices

Created to give your product packaging an "exclusively yours" look. The Royal "Designer" bottle is available in 12, 22, and 32 oz. sizes, with your label in silk screen, offset, Dennison Therimage or paper. Return coupon for sample bottle and full information.

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NAME_____ TITLE_____ COMPANY_____

ADDRESS_____ CITY_____ ZONE_____ STATE_____

Celanese Plastics Company is a Division of Celanese Corporation of America
Canadian Affiliate: Polybottle Limited, Toronto • *Export Sales:* Amcel Co., Inc. and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N.Y.

Dennison Therimage T.M. Celanese ®



Winner of the "President's Award" in packaging competition of National Flexible Packaging Assn. is "Glo-Pak Shampoo" of Glover-Davis Co., Fresno, Calif. "Ultra-Pak," of cellophane and polyethylene, is tetrahedral in shape. Each pack holds enough product for one shampoo. Shelf package is shown at right.

Best Flexible Packages

PACKAGING for three detergent products won top honors in the annual packaging competition sponsored by the National Flexible Packaging Assn. Winners were announced at the fall meeting of N.F.P.A. held in Boca Raton, Fla., Nov. 2.

The flexible packaging industry's highest honor, the "President's Award" went to an unusual package for "Glo-Pak Shampoo" of Glover-Davis Co., Fresno, Calif. Dobeckum Co., a division of Dow Chemical Co., Midland, Mich., produced the effective, light weight package of cellophane and polyethylene for the shampoo.

Called "Ultra-Pak," the easy-to-use package is tetrahedral in shape. Each packet contains enough product for one complete shampoo.

The tough, transparent packages are formed, filled and sealed on completely automatic equipment. Since the unfilled packages are supplied to the packager in roll form, little storage space is needed. A few rolls of the material might contain 100,000 individual packets.

Ten of the unit packets are merchandised in a printed polyethylene bag. On the shelf, the eye-catching "Glo-Pak" shampoo contrasts effectively with other shampoo packages.

Total packaging and distributing costs are down 66% for the striking new package, according to the California producer, who plans widely expanded distribution as a result of the package's success on the west coast.

Judges in the annual, industry-wide event, sponsored by the N.P.F.A., agreed that this package contained the finest attributes of excellent flexible packaging; merchandising impact, functional performance and low total cost.

Two achievement awards in the 1960 contest were won by a modern, attractive foil-based wrapper for "Calgon Bouquet," a detergent produced and marketed by Hagan Chemicals & Controls, Inc., Pittsburgh. Designed by Ketchum, McLeod & Grove, Inc., Pittsburgh advertising agency, the soft pink color and arresting art work have made this a top notch package, in the opinion of the judges. The foil in the box overwrap provides maximum product protection.

The package is less expensive for the manufacturer to use, since filling and shipping are easier. The new package shape makes shelf display simpler. The awards for the package were won by Reynolds Metals Co., Richmond, Va.

A new cellophane overwrap for Lever Brothers' "Lux" bath size soap won a pair of top achievement awards for Cellu-Craft Products Corp., New Hyde Park, N. Y. Cellu-Craft produced the colorful

Two other winners in flexible packaging competition are cellophane overwrap for Lever Brothers' bath size "Lux" soap, left, foil wrapped "Calgon Bouquet" package.







In Aerosol Valves . . .

WHAT'S THE MOST VITAL ELEMENT OF SUCCESS?

Spray head, delivery tube, valve body or housing, gasket, ferrule, spring . . . all play a role in the success of an aerosol valve. How they are individually made, and how they are put together as a unit determine their effectiveness. This is where the most vital element of all is brought into play.

Know-how. It's more than a material part. It's experience, craftsmanship and pride in manufacturing the best aerosol valve. An axiom of quality is the greater the know-how, the better the product. When you buy Newman-Green aerosol valves, you're buying the most vital element of all . . . know-how. Try us soon.

NEWMAN-GREEN *Creative Aerosol Valve Engineering*

151 Interstate Road Addison, Illinois Kingswood 3-6500

(*From Page* 173)

new wrapper for a special "Lux" multi-pak promotion. Colorful rainbow design tied in with the theme used for the promotion by Lever Brothers Co.

—★—

Mulford O-I Exec. V-P

Ray H. Mulford has been elected an executive vice-president of Owens-Illinois Glass Co., Toledo, O., it was announced recently by Carl R. Megowen, president.

Mr. Mulford, a vice-president of Owens-Illinois since 1949, will continue as president of the company's glass container division.

He joined the company in 1933 as budget supervisor at its Clarion, Pa., glass container plant, and later spent 12 years in the Pacific coast division, serving as supervisor of manufacturing control, manager of the Los Angeles plant, manager of the Oakland plant and general factories manager of the division.

Mr. Mulford was named general manager of Kimble Glass Co., an O-I subsidiary, in 1953 and was president of Kimble when named to his present position.

—★—

Tube Shipments Increase

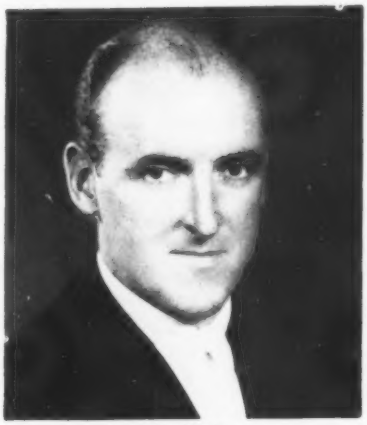
Shipments of collapsible metal tubes for cosmetics products, reached a record high of 76 million units for the first eight months of this year, the Collapsible Tube Manufacturers Council announced recently. August shipments reached nearly 11 million units, 55 per cent higher than August, 1959.

Through August, the gain for the year was six million units, nearly nine per cent more than the 70 million cosmetics tubes shipped in the first eight months of 1959.

Cosmetics now represent 11 per cent of the market for collapsible metal tubes which last year set a record of more than 1,150,000,000 tubes used for toothpaste, pharmaceuticals, shaving cream, food, household and industrial products, according to the Collapsible Tube Manufacturers Council.

Whitney Joins IMCO

Jack K. Whitney has joined IMCO Container Corp., Kansas City, Mo., as regional sales manager in charge of West Coast sales, it was announced recently. Mr. Whitney comes to IMCO from W. R. Grace Co., where he served as regional sales representative for five years.



Jack K. Whitney

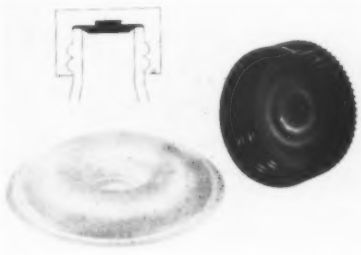
A subsidiary of Rexall Drug and Chemical Co., IMCO is a major producer of plastic bottles, jars, and components. The firm recently opened a plant for the manufacture of polyethylene containers at Goleta, Calif.

—★—

New Gilbert Cap Liner

Gilbert Manufacturing Co., Long Island City, New York, originators of "Cushion-Seal" closures, state that glass and plastic bottles, tubes, and similar containers — including polyethylene "squeeze" types, can be capped with a closure which eliminates the worry of lost liners.

A dome-shaped soft plastic cushion which snaps-in and will not fall out of the closure, makes soft sealing under a hard cap a reality, according to Gilbert. When a container is capped, the liner automatically forms a vapor-proof seal between the closure and container, seals the container under tension which prevents back-off of the can, and deforms to fit minor irregularities in the container throat, preventing "leakers." The soft seal also absorbs the shock of high speed capping machines, reducing breakage.



The company states the polyethylene used in the seal is completely inert — tasteless, odorless, and non-toxic, and has excellent resistance to moisture.

—★—

Coupon-Placing Machine

A coupon-placing machine that is said to be 99 per cent efficient is described in a four-page, three-color folder from Thiele Packaging Machinery Co., a division of Stainless & Steel Products Co., St. Paul, Minn.

The folder states that the machine handles coupons, booklets, premiums, and other light, flat objects. High efficiency is said to result from a cam action and special valve that releases the insert inside the package, and it is not affected by coupon folds or by reversal of the coupons in the hopper. Folder No. 900-1 also illustrates cam action, package indexer, and vacuum systems, as well as including floor plans and specifications for single and multiple head models.

—★—

Low-Cost Carton Sealer

Ever-Seal Industrial Glues, Inc., New York, is marketing a lightweight portable carton sealer under the name Lezam Gluer.

The new model is claimed to seal cartons more securely than gummed tape or staples, and to keep them neater in appearance and safer in transit. The unit dispenses a low-cost liquid glue, in an even coat, to any size area. Additional claimed economies are speed and ability to use ungummed labels. The entire unit weighs approximately 3½ pounds and costs $39.50 each, f.o.b. New York.

HELP IN A HURRY
comes with Du Pont FREON® Propellents



Need technical service to help solve a production problem . . . advice on formulations for a new aerosol product? Get in touch with your Du Pont Representative pronto! He'll see to it that you get the help you need as fast as possible. It's a service you can always count on when you use high-quality "Freon" propellents!

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PROPELLENTS

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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REG. U. S. PAT. OFF.

PRESSURE GAUGE

A newsletter published periodically by

AEROSOL TECHNIQUES, INC.

BRIDGEPORT 5, CONNECTICUT

CSMA EDITION — DECEMBER, 1960

BIG LETTERS IN ATI'S ALPHABET: R. & D.

Product research and development, which Aerosol Techniques, Inc., has regarded as a life-line of aerosol progress ever since the company's inception, are getting a top priority at ATI in terms of people and equipment. The people are topnotchers who not only have the technical know-how and imagination but the understanding of practical marketing problems essential to the development of products that make sense. The equipment provides ATI's customers, present and future, with the best possible tools for product development.

ATI's heightened R. & D. program moves forward in these major areas: (1) products not on the market or in various stages of development; in this category are new household products with exciting potentialities as convenience advances, (2) development of water-based products, with concentration of efforts on improving performance and lowering costs, and (3) acceleration of the liquefied petroleum gassing program which ATI has importantly implemented with the installation of a completely new large-volume LP line.

FROM ATI TO YOU:

Each annual meeting of the CSMA points up the extraordinary growth of the aerosol industry. As a company that has shared in this growth and tries to measure up to the responsibilities involved, we congratulate CSMA and its Aerosol Division in their reciprocal contributions.

H.R. SHEPHERD, President
Aerosol Techniques, Inc.

It is noteworthy that about 40% of the business ATI has today could not have been filled two years ago, because the products did not exist.

ATI AEROSOL RESEARCH GRANT AT COLUMBIA

Aerosol Techniques is continuing its grant for graduate work in aerosol research at the College of Pharmacy at Columbia University. This grant was initiated in 1958 with the establishment of an Aerosol Research Laboratory, the first such at any college, which is maintained under the direction of Professor Joseph L. Kanig. The first graduate to base his Master's thesis on studies made in this laboratory, Harvey Mintzer, is now a staff chemist at ATI.

IN THE A-T-EYE

A patent (No. 2,953,284) for a new type of lubricant for the inside walls of an aerosol container has been granted to ATI'S Fred Presant, Sam Prussin and H. R. Shepherd; the lubricant permits thick viscous liquids, such as toothpaste, to settle evenly at the bottom of the can, with minimal hang-up along the walls . . . The New York office of Aerosol Techniques, Inc., is now located at 386 Park Avenue South, telephone MUrray Hill 5-4686 . . . Latest publication to appear under the ATI imprint is "The Aerosolette," of, by and for the company's employes; the able and hard-working editor is Phil Kleppe Jr., better known professionally as quality control manager . . . This same Phil Kleppe and his quality control department have been featured in "He guards your good name in aerosols" advertisements of the Isotron division of Pennsalt Chemicals in leading trade magazines . . . Getting back to "The Aerosolette," one of its features is a series about the companies who are the customers ATI serves.



PHIL KLEPPE

AEROSOL TECHNIQUES, INC., is exclusively devoted to private label manufacturing, research and development of aerosol cosmetics, pharmaceuticals, industrial and chemical specialties. ATI's newsletter, "Pressure Gauge," including technical and market data, will be mailed regularly upon request.



The Perfect Container doesn't Just Happen!

You can't blame Baby Kangaroo for being hopped up about his mother's container. Crib, carriage and nursery all in one, the Kangaroo's pouch is certainly a container that does what it is supposed to do . . . best!



In the dynamic aerosol industry Canco containers do what they are supposed to do . . . best! Today, Canco offers aerosol packers broad technical experience and a complete selection of metal containers. You can be sure that the great pressure containers to come will come from Canco.

To increase your sales and profits, put Canco's aggressive team of research, manufacturing and marketing experts to work on your aerosol packaging problems.

GREAT CONTAINER IDEAS COME FROM CANCO

CANCO DIVISION
AMERICAN CAN COMPANY

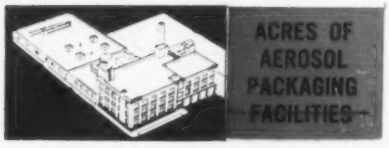


Here's product protection at its best! No dented containers, no leaks, no faulty formulation, no evaporation, no fire hazard. So, if you're in the coconut business, let Mother Nature continue to do your packaging.

But, if you market an aerosol, that's a different story. G. Barr & Company should do your manufacturing. We specialize in private label aerosols exclusively with acres of research, product development, formulation, packaging, storage and shipping facilities to serve you. Hundreds of millions of famous brand name products have been formulated and filled here. Our customers are leaders in their fields. We'd like to have your name with those we serve. May we tell you the complete G. Barr & Company story?

ONLY MOTHER NATURE DOES A BETTER PACKAGING JOB.

G. BARR & COMPANY
Private Label Aerosols
GENERAL OFFICES: 3601 S. RACINE AVE.
CHICAGO 9, ILL.





"Surgent", a new liquid hand soap that contains both hexachlorophene and cold cream, is now being marketed by Hysan Products Co., Chicago, in a light-weight, one-gallon polyethylene bottles. The plastic container is equipped with a full grip plastic handle that makes it easy to carry with three or four fingers. Bottle weights five ounces, compared with 40 for glass



An all-purpose liquid household cleaner, "Reward," was introduced recently in Rochester, N. Y. and Des Moines, Ia., by Lever Brothers Co., New York. Containing ammonia, the cleaner is designed for heavy duty cleaning, including floors. "Reward" is packed in glass bottles. The 15 ounce size retails for 39 cents, the "giant" 28 ounce size is 69 cents.

WHAT'S NEW?

"Vim" heavy-duty blue detergent tablets, announced recently by Lever Brothers Co., New York, are cellophane wrapped in multi-unit packs. They are packed in cardboard carton with top opening that closes tightly for storage. Three size packages are available, containing 24, 40 and 128 tablets. Each low-sudsing tablet weighs one ounce. Two are suggested for normal wash load in front-loading automatic washers; four for top-loaders.



Selig Co., Atlanta, recently announced the availability of its "Wickette" chlorophyll type room air freshener in two types of packaging. In addition to a wick type dispensing bottle, the odor counteractant is now being packaged in aerosol form for push-button, on-the-spot odor control. Both forms are being suggested for odor control in offices, plants, hospitals, rest rooms, cafeterias, locker rooms, etc.





Recent addition to fragrance line of Helena Rubinstein, Inc., New York, is loaded by Aero-Chem Fillers, Bridgeport, in ½ oz. glass bottle by Foster Forbes. B18F metered valve, and trigger top actuator are by VCA, Inc., Bridgeport.



Changes in formulation and packaging of "Kan-Kil" insecticides were announced recently by Colgate-Palmolive Co., New York. New "Fly and Mosquito Killer" is loaded in 12 oz. aerosol container lithoed in straw yellow. "House and Garden Insect Killer" is packed as 14-oz. aerosol, container for which is green. A red label has been adopted for "Kan Kill Ant and Roach Killer," formulation for which includes chlordane. This product is also packed in new 15-oz. pump spray can, and in 16 and 32 oz. spray bottles.

"Crystal-3 Cleaner", new product of Leon Chemical Industries, Inc., Grand Rapids, Mich., is designed for use on copper, stainless steel, porcelain. Packaging for home use will be in 8-oz. and 16-oz. re-usable plastic jars which have applicator. Quart and gallon jar are commercial and industrial size packages.

Five oz. plastic tube is newest packaging for "Vi-Lan" antiseptic skin cleanser of Dameron Enterprises, Inc., Louisville. Product also is packed in quart and pint cans and as aerosol.

Six fragrances of Elizabeth Arden, New York, are now packaged in frosted, 2¼ drams Foster Forbes bottles. Overcap by Metal Fabrications, Waterbury, Conn.; B18F VCA metered valve.





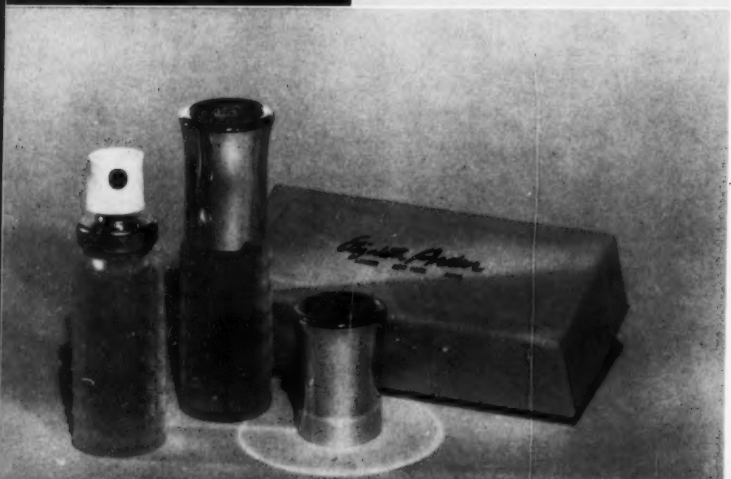
Claimed to be first liquid scouring cleanser ever marketed, "Nifty" by Lever Brothers Co., New York, is packed in plastic lined cardboard containers with centered nozzle. Regular size retails for approximately 23 cents; the "giant" size is 33 cents.

Pressure packaged "Prestone Spray De-Icer" for car windows was introduced recently by Union Carbide Consumer Products Co., New York. Fourteen ounces of product in 16-oz. red, blue and silver can retail for approximately $1.95. Product defrosts and melts ice.

New, improved "Texinol Cleaner", designed for use on a wide range of floor and other surfaces, was introduced recently by Walter G. Legge Co., New York. Does not insulate conductive flooring.

New dispenser designed to handle 2 lb. can of Quickee cream waterless hand cleaner was announced last month by Quickee Products, Inc., Yonkers, N.Y. "Quickflow Meter-Matic" dispenser, because of its size, is designed for small shops, service stations, etc.

Aerosol defroster-sanitizer for refrigerators and freezers is now being marketed under trade name, "Mr. D'Frost", by Ralm Products, Inc., Chicago private label manufacturer and custom filler. 15-oz. Crown can has Newman-Green, Inc., valve, and overcap by Sunbeam Plastics Corp. Retail price: $1.79.



"Alumakleen", newest addition to line of Nyco Products Co., Chicago, is designed to clean and polish such surfaces as aluminum, copper, brass, chrome and stainless steel. Product, which leaves wax film, is packed in 12-oz. jars ($1.29); quart cans ($2.95), and gallon cans ($9.90 per gallon).

J. R. Watkins Co., Winona, Minn., recently introduced "Sweeteen" body powder which is dispensed from an aerosol container. Powder is pressure packed in 6-oz. Crown can, which is equipped with B9-P-FG fast-gassing powder valve by VCA, Inc., Bridgeport.

"Mar-Hyd", by H. Talbot Co., Cincinnati, in 15 oz. can for recoloring or color restoring of pre-cleaned vinyl and artificial leather surfaces, comes in 12 different colors. Available also in quarts and gallons for use with vacuum spray attachments or other spray equipment. 15-oz. can retails for $2.99.


NEW GIANT SIZE
Nifty
LIQUID
SCOURING CLEANSER
SUPER DETERGENT POWER!
LESS RUBBING!
PRESTONE
SPRAY
DE-ICER
FOR
CAR WINDOWS
TEXINOL
LEGGE
LEGGE SYSTEM
LEGGE Company, Inc.
TWO POUNDS
QUICKEE
CREAM
HAND
CLEANER
Sweeteen
POWDER MIST
BY MARY KING
M-3
DEEP RED
TALBOT'S
MAR-
HYDE
RESTORES & RECOLORS

A
winning team
needs a
"strong bench"

When you buy Duraglas containers or their closures from Owens-Illinois, you acquire the rights to a "strong bench" of technical and merchandising skill.

On call are specialists in designing packages and making them perform efficiently in your plant and where your products are sold.

Ask your Owens-Illinois salesman. Call him at your nearby O-I office or write Owens-Illinois, Toledo 1, Ohio.



DURAGLAS CONTAINERS
AN (O-I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO
PACIFIC COAST HEADQUARTERS • SAN FRANCISCO



Some examples of filling with hydrocarbon propellants at Peterson Filling

PRODUCTS LAUNCHED WITH HYDROCARBON PROPELLANTS

Propel Sales UPWARD Cost Less Per Package Unit

Here at Peterson Filling, we are fully equipped for high-speed filling of pressurized units utilizing hydrocarbons (propane, butane, iso-butane, etc.) as propellants *with consequent savings in your costs per package-unit.*

Ideal for a wide range of products, these propellants are popular for use with starches, polishes, cosmetics, shaving cream, window cleaners, charcoal starters and many others.

We also fill pressurized units using halocarbons, nitrogen, or carbon dioxide and other inert gases. For *all* your filling needs . . . *including gravity liquid filling* . . . write, wire or phone . . .

PETERSON
Filling and Packaging Co.

HEGELER LANE • DANVILLE, ILLINOIS

STEEL SHIPPING PAILS

If you have products that are going somewhere, send them out in Central's sturdy shipping pails, handsomely lithographed in full color in our own printing department. Send us your label or literature for a decorating suggestion.

In our big, new, ultra-modern plant, we produce a complete line of steel pails—straight side, flaring, lug cover, closed top—in a full range of sizes from 1 to 15 gallons capacity. You have your choice of all kinds of fittings and closures. We are experts on protective linings, too. And Central's specialized slip cover cans are available in sizes from 2 oz. to 20 lbs.

And remember: "Central's famous for fast service!"



for products going places

CENTRAL CAN COMPANY Inc.

3900 S. KILBOURN AVE. • CHICAGO 23, ILLINOIS

New Aerosol Filler

National Instrument Co., Baltimore, Md., recently announced its new "Filamatic" model DRB-16 volumetric type product filler, claimed to fill up to 40 16-ounce aerosol containers per minute.

The filler can be used for pressure or cold filling, on new or existing aerosol lines. It can also be used as a portable filler for plastic, glass or metal containers of up to 32 ounces. Interchangeable pump units can adapt the model to dispense volumes as small as 1/20 of an ounce.

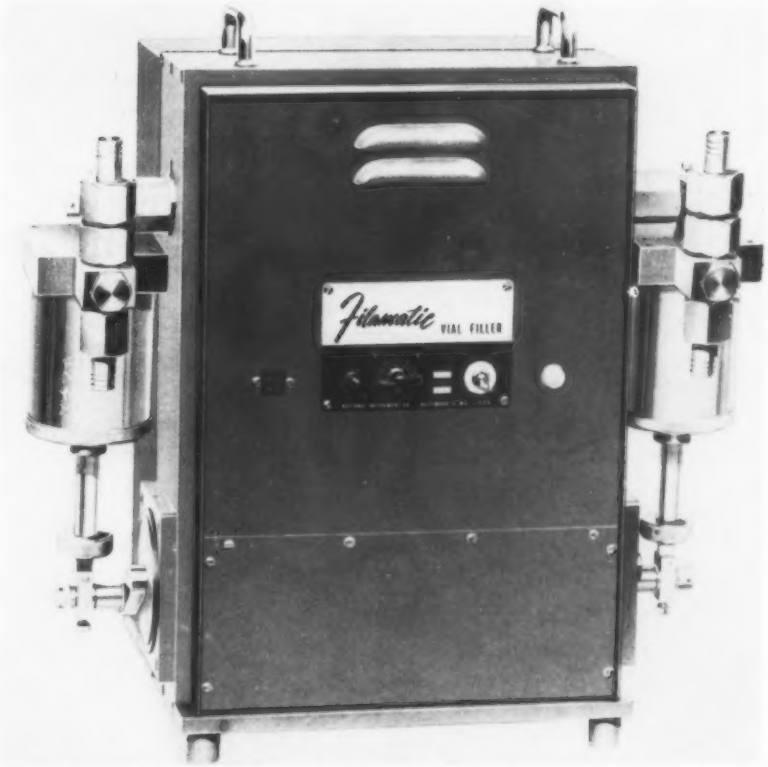
All liquid contacting parts are fabricated of 18-8 stainless steel and "Teflon." A ¼ hp gear motor and thyratron type electronic controller provide a 10 to 1 speed range. All moving parts rotate in self lubricated bearings.

—★—

Improved Pressure Pumps

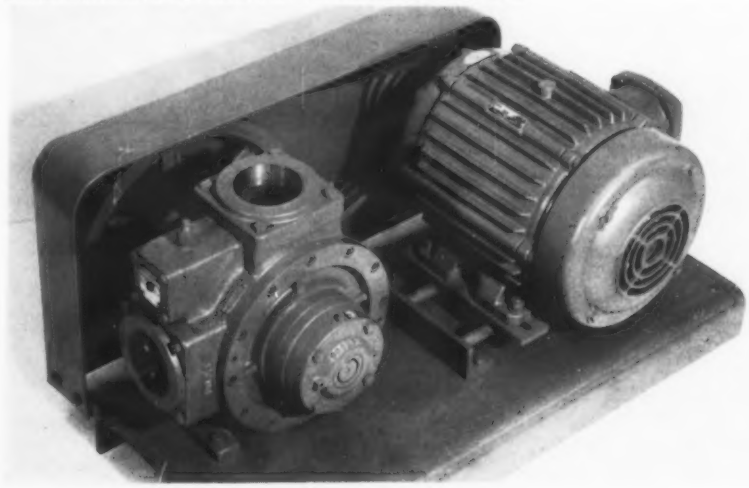
Improved free floating rotor and shaft assembly have been engineered into "Coro-Vane" pumps, it was announced last month by Corken's, Inc., Oklahoma City. These features result in higher differential pressures for hard-to-fill containers and higher capacity for speedier delivery. An improved unitized mechanical seal for protection against leaking was announced at the same time.

The "Coro-Vane" line includes models designed for container filling as well as pumps for high capacity liquid transfer. Positive displacement type pumps, they feature hydraulically actuated vanes. Standard models come in ductile iron, but are available also in stainless steel or aluminum. Quiet operation, durability and easy replacement of parts are advantages claimed for these pumps.



New "Filamatic" volumetric product filler of National Instrument Co., Baltimore, can fill up to 40, 16 ounce aerosol containers per minute, the maker claims.

Improved free floating rotor and shaft assembly have been included in "Coro-Vane" pumps, produced by Corken's, Inc., Oklahoma City, Okla.



Hoechst AG. Expands

Farbwerke Hoechst Ag., Frankfurt, West Germany, will invest one million dollars in their Gersthofen plant near Munich, to enlarge wax production capacity.

Several years ago, Hoecht erected a large plant near Kassel, West Germany, for the extraction of montan wax from lignite. This plant is operating at capacity.

In the United States and Canada, the assortment of Hoechst waxes are used in the field of self-polishing emulsions.

The Hoechst waxes are distributed in the United States by the Hostawax Co., which has recently moved to newly constructed laboratories at Mountainside, N. J.

—★—

Polyethylene Price Cut

Price reductions, retroactive to Aug. 1, for five of eight grades of low molecular "A-C" polyethylene were announced late last month by Allied Chemical Co.'s Semet-Solvay Petrochemical Divi-

BROCKWAY VISION IN GLASS



Shelf satisfaction yields buyer acceptance • Whether it's the golden yellow of your egg shampoo or the rich ruby redness of your cough syrup, it will catch the eye of the buyer faster in crystal-clean glass by Brockway. Only glass containers give buyers eye-stimulation to trigger purchase desires. To move your product off the shelf, court buyer acceptance with glass containers —quality proved glass containers through BROCKWAY VISION IN GLASS.

SYMBOL OF QUALITY · GLASS CONTAINERS ·

BROCKWAY GLASS

COMPANY, INC., Brockway, Pennsylvania
Sales Offices in Principal Cities

SUBSIDIARIES: Demuth Glass Works, Inc., Parkersburg, W. VA.
Tygart Valley Glass Co., Washington, Pa.
Celluplastics Inc., Newark, N. J.



Brockway, first name in containers for:

foods
pharmaceuticals and proprietaries
prescription ware
beverages
beer
liquors
plastic containers
vials and tubing

Integrity in glass since 1907

sion. Per pound price reductions are as follows: 1½ cents for powdered grades 617A and 6A; 2½ cents for pelletized grades 6 and 617; 5 cents for grade 615.

New prices per pound in truckload quantities are: 27½ cents for grades 6, 617, and 615; and 28½ cents for grades 6A and 617A.

Price of emulsifiable grade 629 was reduced by five cents in July and is unaffected by these changes.

"A-C" polyethylenes are used in paste polishes and various other coatings.

—★—

Establish Corrugated Firm

Establishment of Fein's Corrugated Containers, was announced recently by Irving Fein, Mark Fein and Burton Marcus. Specializing in corrugated containers for the soap and chemical specialty fields, the firm has offices at 100 Park Ave., New York, and a plant at 1561 Hudson Blvd., Jersey City, N. J., which is in full production.

Chairman of the board is Irving Fein. Mark Fein is president and Burton Marcus, vice president. The three men previously were president, vice-president and secretary, respectively, of Fein's Tin Can Co., Brooklyn.

—★—

"Hidden" Advertising

Thomas Porter, manager of laminated products development for the flexible packaging division of Continental Can Co., New York, stated signs exist that printing of laminated foil labels on both sides may become a trend due to the merchandising possibilities involved.

Mr. Porter believes the principle of reverse side printing might well be applied to any transparent product that comes in a bottle, whether it is shampoo or any other liquid product. The second side could be used for an added message, trademark, product use suggestion, promotion of other products made by the same company, or to introduce other product sizes.

Survey of Packaging

A survey of consumer likes, dislikes and attitudes toward grocery packaging was conducted earlier this year by National Family Opinion, Inc., Toledo, O. The three part report, jointly sponsored by *Sales Management* magazine, is based on the findings of a twelve page questionnaire completed by a balanced sampling of 1,089 homemakers.

The most appealing packaging developments, as stated by the homemakers, listed plastics (polyethylene bottles, film, etc.) first, with single, pre-measured units showing favorable interest; further down the list, (14th out of 21) aerosol containers. Most of the women who stated they disliked aerosols mentioned excessive price as their main objection. Specific dislikes were: whipped cream toppings, difficult to use; toothpaste, hard to use, expensive; shaving cream, can't see how much is left. Added to these specific dislikes was the more general objection to aerosols that the propellant doesn't get all the contents out ("I can still hear some swishing around inside after the bomb is used up").

On the other hand, all aerosols that were liked were liked for the same reason: they work well. Among the leaders were: Colgate's "Florient," Johnson's "Pledge" and "Glad," Avon deodorizers, and "Black Flag," Colgate and Bridgeport Brass insecticides.

—★—

Riegel Names Hutchinson

Riegel Paper Corp., New York, announced recently the appointment of Jack E. Hutchinson as manager of its newly created folding carton sales department. His temporary headquarters will be at Riegel's Bloomer division, Newark, N. Y.

Mr. Hutchinson was formerly sales manager of Bloomer Brothers Co., which recently became a Riegel division. He is now responsible for the sale of all cartons produced by the company's Bloomer and Quality Divisions.

the UNSEEN ADVANTAGE of

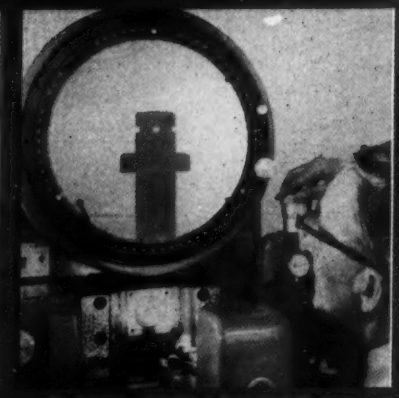
RISDON Aerosol Valves

Protected Quality Performance

Strict, scientific, uncompromising quality control insures Risdon valve performance when your customer presses the actuator. This is the unseen advantage, the *extra* value you get from Risdon. It results in consistent, customer-pleasing performance that wins repeat sales.



At left, inspector uses hydraulic tester to simulate pressure conditions of filling. Technician on right uses special, custom made gauge to check the orifice in an actuator.



A contour projector accurate to one-half thousandth of an inch enlarges silhouette of valve components up to 50 times for precise checking of dimensions and contour.



In the quality control test on the left, actuators are being examined under a microscope. On the right, orifices of "Micro-Mist" actuators are being checked with a pin gauge.

Contact Risdon for specific information on the valve for your pressurized product or send for Risdon's free booklet, "Aerosol Dispensing."

THE RISDON VALVE LINE
includes

- **the GB Valve**—for glass, plastic & small metal containers with 20 MM opening
- **the 5210 Valve**—for standard 1" opening metal containers
- **the Metered Spray Valve**—for pre-measured sprays
- **the "Magna-Meter"® Valve**—for larger pre-measured dispensing of sprays, liquids or foams; for liquefied propellants and NITROGEN
- **the "Micro-Mist"® Valve**—for dispensing 3-Phase products or super spray performance on 2-phase products, liquefied propellants and NITROGEN

ALL RISDON VALVES ARE COVERED BY PATENTS OR PATENTS PENDING.

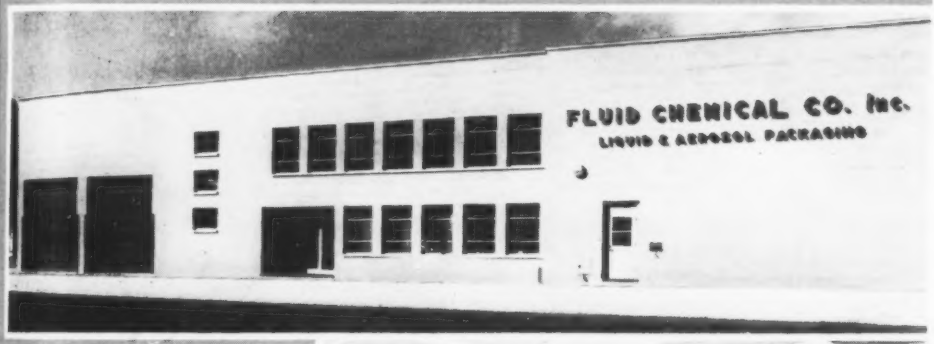
RISDON

THE RISDON MANUFACTURING CO.
AEROSOL DIVISION
NAUGATUCK, CONNECTICUT

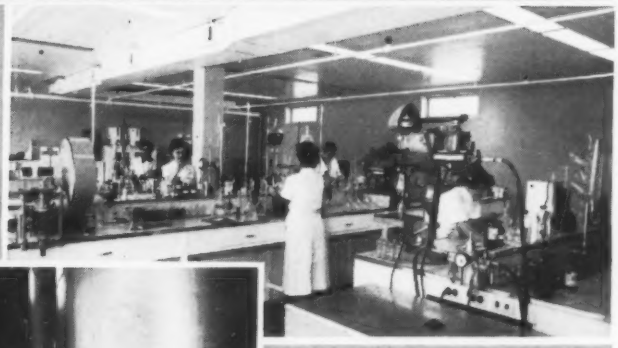
RI-128

Practice makes perfect





General Offices and Laboratories. Main plant extends four blocks along Erie Railroad.





One of the largest and most adequately staffed laboratories and quality control departments in the industry.

Ample tankage predominantly of stainless steel assures finest manufacturing and storage facilities.

and, certainly, we get a lot of FILLING practice!

Are you the captive of your own captive filling plant? Are fixed overheads, high operating costs and fair-to-middling filling methods shrinking your profit margin?

Profitable packaging requires know-how that can be gained only by practice, and more PRACTICE. We believe we can do your filling better and more economically than you because:

1. **Our entire activities are confined to mixing and filling operations, especially for liquid and aerosol products.**
2. **We do the filling for, not one, but *many* manufacturers.**
3. **We operate seven separate specialized filling plants.**

In today's highly competitive markets, the appearance and efficient functioning of the package have a powerful effect on sales. Aerosols filled with product in the FLUID plant are uniformly accurate in weights and pressures. Quality control of incoming materials and of mixing and filling operations here leave no margin for error.

Your filling operations should be our job. Send the coupon for further information regarding FLUID'S facilities for serving you.

Packaged by

FLUID *Chemical Company, Inc.*

MANUFACTURING CHEMISTS SINCE 1921
878 MT. PROSPECT AVE. • NEWARK, NEW JERSEY

Fluid Chemical Company, Inc.
876 Mt. Prospect Ave., Newark, N. J.

☐ Please send us full information regarding your facilities for packaging _____
nature of product

☐ Please have one of your sales engineers contact us.

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ STATE _____



ON THE SPOT: Seven member panel of judges included specialists in the fields of package design, merchandising and advertising. Judges with winning aerosol packages on the day of judgment, Nov. 2, are, seated, left to right: Miss Dorothy Diamond, editor of "Women's Viewpoint" column of "Printers Ink"; Miss Carol Adams, vice-president, National Family Opinion, Inc., consumer research organization, and Miss Cecile Hayward, home fashions coordinator, "Living for Young Homemakers" magazine. Standing, l. to r.: Frank Gianninoto, package designer, Frank Gianninoto Associates; Peter Hilton, president, Kastor, Hilton, Chesley, Clifford & Atherton, Inc., advertising agency; James Moyer, head buyer of cosmetics and toiletries, Lord & Taylor department store, and Kenneth L. Hirst, head buyer of cosmetics and toiletries, W. T. Grant Co.

AEROSOL AWARD WINNERS

"Sprayclean Spot Remover," a product of Durazone (Sales) Ltd., London, England, won the grand award as the best package entered in the 1960 Aerosol Packaging Awards Competition conducted by the Aerosol Division of the Chemical Specialties Manufacturers Association.

First foreign entry ever to win the grand prize in the annual competition, "Sprayclean" was also judged best in the "Other Household Products" category as well as in the newly established "Foreign Products" category.

Another package from the same manufacturer, "Dew Air Freshener," took top honors in the "Room Deodorants" classification, giving Durazone the additional honor of being first ever to win in three clasifications in any year.

This year's competition, the ninth, was the most popular to date, drawing over 270 entries. The awards, covering 15 product categories, are made on the basis of good design and general sales appeal of the package.

Due to the large number of new spray-starch type products entered in the "Other Household Products" category, the judges established a special sub-classification for this group.

In two classifications, "Paints" and "Horticultural Products," the judges granted only honorable mention awards.

The judges also established two categories of winners in the "Perfumes, Colognes and Toilet Waters" classification. They voted a best package for "women's products" and one for "men's products."

Winners, Facing Page

1. **Medicinal-Pharmaceutical Products**
   "Desenex" aerosol foot powder
   Maltbie Laboratories Division, Wallace & Tiernan, Inc.
2. **Room Deodorants**
   "Dew" air freshener
   Durazone (Sales), Ltd.
3. **Shave Products**
   "Seaforth" minute shave
   Chesebrough-Ponds, Inc.
4. **Men's Toiletries**
   "One for a Man" spray cologne
   Paul D. Blackman Corp.
5. **Automotive Products**
   "Sohio" white tire cleaner
   Standard Oil Co. (Ohio)
6. **Horticultural Products**
   "Black Flag" rose and flower spray
   Boyle-Midway Division, Amercian Home Products Corp.
7. **Industrial Products**
   "Strauss Dry Lube"
   Brandywine Photo Chemical Co.
8. **Paints, Enamels, Protective Coatings, Paint Removers**
   "Krylon" glowing fluorescent spray paint
   Krylon, Inc.
9. **Insecticides, Repellents, Moth Proofers**
   "Killer" super bombe parfumee
   Laboratoire Agir (Procede SAFCA) Paris
10. **Other Household Products**
    (Special starch products sub-classification)
    "Easy-On" spray starch
    Boyle-Midway Division, American Home Products Corp.
11. **Food Products**
    "Taste Tap Spray O'Garlic"
    Gard Pressure Foods Corp.
12. **Veterinary and Pet Products**
    "Glover's Imperial" flea-tick killer
    H. Clay Glover Co.

This Page, left to right:

Other Personal Products
"Right Guard" deodorant
Gillette Safety Razor Co.

Hair Preparations
"Breck" hair set mist
John H. Breck, Inc.

Perfumes, Colognes, Toilet Waters
(Women's Products)
"Esprit de Parfum"
Faberge, Inc.





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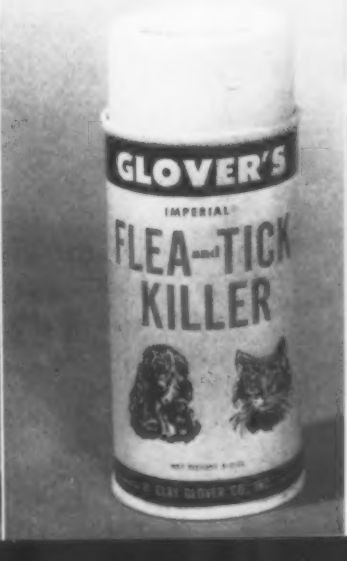


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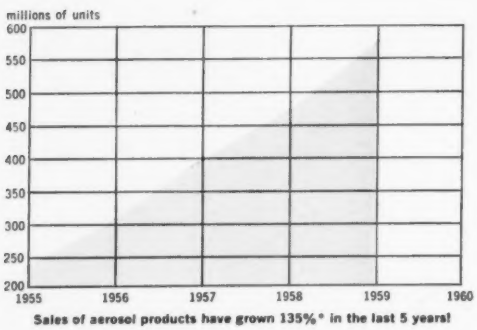






Polishing off a neat profit..





Sales of aerosol products have grown 135%* in the last 5 years!

How The Magic Touch of Aerosol

Alert businessmen are turning to aerosol packaging for more sales and higher profit margins. For example, among grooming aids for men, aerosol shoe polish is a real "comer." Right now, it's receiving the kind of aggressive promotion that has made hair sprays and other aerosol products so successful.

If *your* product has "aerosol potential," now's the time to take advantage of General Chemical's many special services to help you enter the aerosol market. As a leading supplier of aerosol propellants, General can provide valuable tech-

n aerosols!

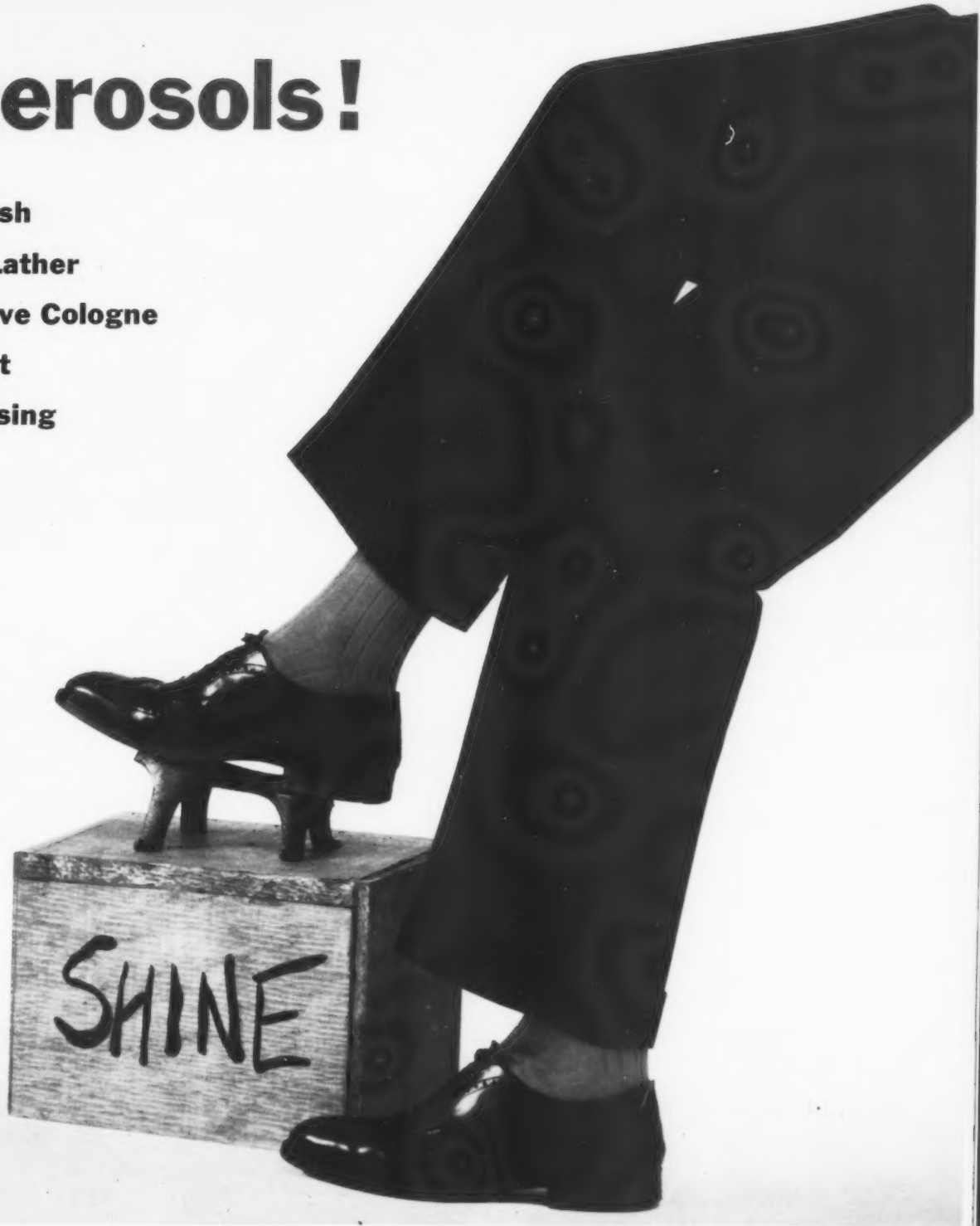
Shoe Polish

Shaving Lather

After-Shave Cologne

Deodorant

Hair Dressing



Packaging Skyrockets Sales!

nical data, latest market information and promising new aerosol formulations developed in its laboratories. In addition, General can help you select a contract filler who will take over the complete packaging job from preliminary tests to full-scale commercial production.

Don't wait to take advantage of these helpful General Chemical services. Phone or write today . . . you may open the door to a whole new world of sales for your product.

*Estimated by Market Surveys Department, General Chemical Division, Allied Chemical Corporation

genetron®

aerosol propellants

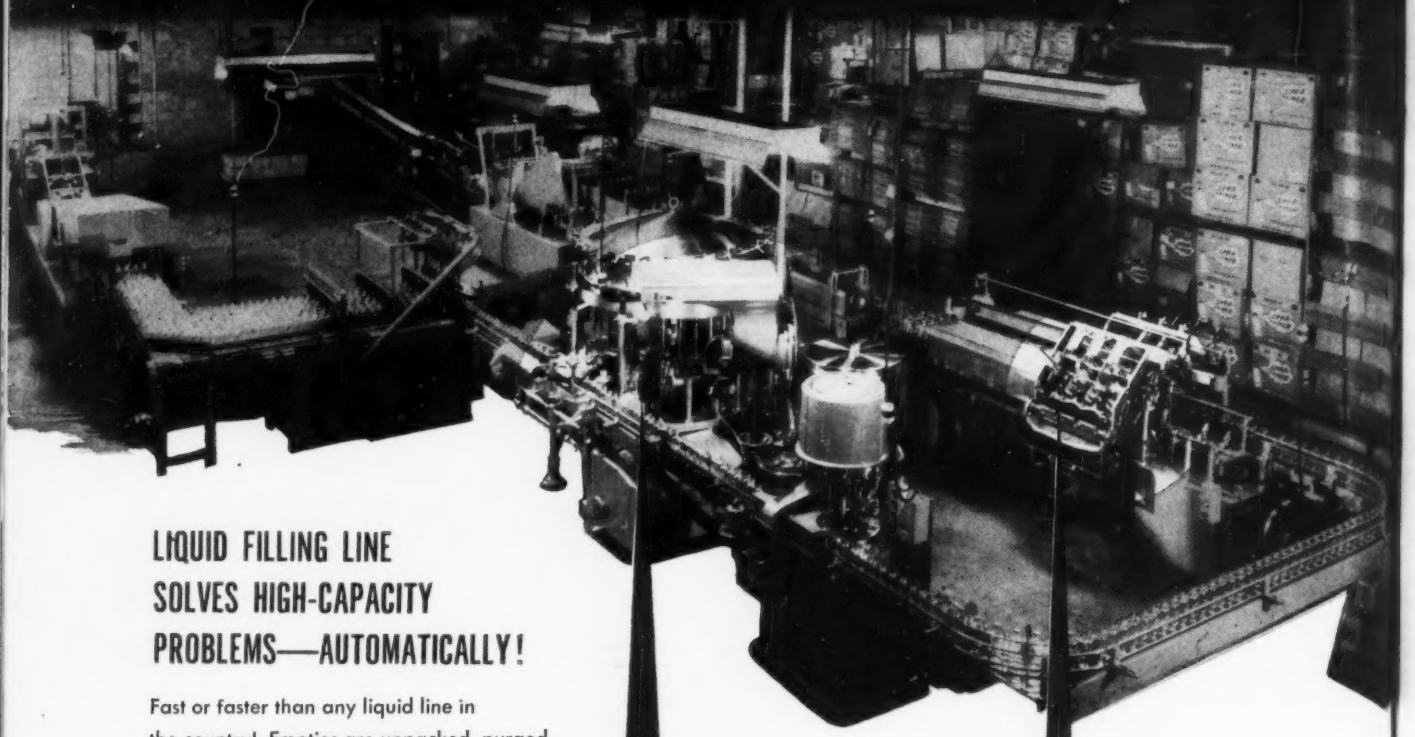
Putting the "push" in America's finest aerosols

Allied Chemical

GENERAL CHEMICAL DIVISION

40 Rector Street, New York 6, N. Y.

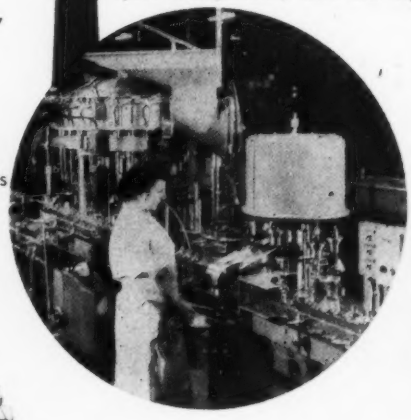
now we can fill 15,000 BOTTLES of YOUR PRODUCT every hour...



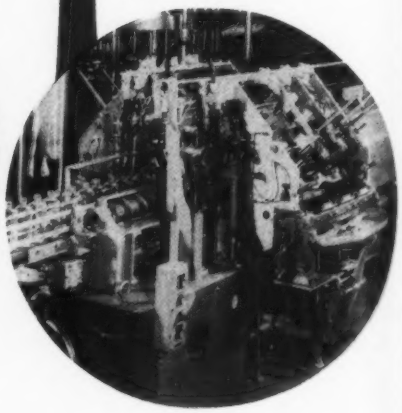
LIQUID FILLING LINE SOLVES HIGH-CAPACITY PROBLEMS—AUTOMATICALLY!

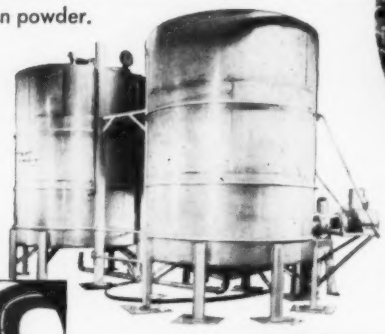
Fast or faster than any liquid line in the country! Empties are unpacked, purged, filled, capped, labeled, and delivered to trailers in sealed cartons—in *one continuous operation*. Handles any bottle up to 1 gallon, including high-density polyethylene. Call or write today for details about Stalfort, the nation's largest aerosol loader and custom filler of conventional packages. Also, a high speed sanitary line for food or pharmaceuticals—even powder.

NO IMPURITIES! *Vacuum-cleaned bottles speed through rotary filler and capper.*



NO OFF-CENTER LABELS! *Any size or shape labels placed front and back by electronic timer.*





NO "DOWN" TIME! *Sanitary storage tanks hold up to 15,000 gallons for continuing operation.*

JOHN C. STALFORT AND SONS, INC.

321 WEST PRATT STREET, BALTIMORE 1, MARYLAND

new trade marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany each notice of opposition.

Simplicote — This for concencentrated paste cleaner wax. Filed May 2, 1960 by J. I. Holcomb Manufacturing Co., Indianapolis, Ind. Claims use since Apr. 21, 1960.

Lestex—This for liquid detergent for laundering purposes. Filed Apr. 21, 1960 by Adell Chemical Co., Holyoke, Mass. Claims use since Feb. 26, 1960.

Iodeo—This for household deodorant with germicidal, bactericidal and fungicidal characteristics. Filed Apr. 9, 1958 by Doho Chemical Corp., New York. Claims use since Dec. 1957.

Orkil — This for insecticides. Filed Mar. 11, 1959 by Orkin Exterminating Co., Atlanta, Ga. Claims use since Jan. 19, 1959.

Du-rite — This for laundry bleach. Filed Dec. 3, 1959 by Du-rite Chemical Co., Brentwood, Md. Claims use since 1926.

Farmore—This for weed killer and insecticide. Filed Dec. 4, 1959 by Farm Chemicals, Athena, Ore. Claims use since Jan. 1954.

Mar-a-way — This for scratch and mar remover for lacquered, varnished or painted surfaces. Filed May 2, 1960 by Don Hall Laboratories, Portland, Ore. Claims use since Jan. 20, 1960.

Advanced Formula — This for automobile waxes. Filed Oct. 1, 1958 by Car-skin Products Corp., Flemington, N. J. Claims use since Sept. 18, 1958.

I-Sol—This for liquid chemical and conditioner for water recirculating cooling systems. Filed Sept. 9, 1959 by Brilco Laboratories, Brooklyn, N. Y. Claims use since April 20, 1950.

Whitey—This for tire cleaner. Filed Oct. 12, 1959 by Detergent Engineering Co., Tulsa, Okla. Claims use since April 1959.

Usapon—This for floor cleaner containing a disinfectant. Filed March 8, 1960 by U. S. Sanitary Specialties Corp., Chicago. Claims use since March 2, 1960.

Teclene — This for detergents for industrial and marine use. Filed March 14, 1960 by Tect, Inc., Northvale, N. J. Claims use since Jan. 31, 1958.

Lesmar — This for liquid wax for household use. Filed Apr. 25, 1960 by Adell Chemical Co., Holyoke, Mass. Claims use since Apr. 18, 1960.

Olox — This for emulsifier primarily a neutralized soap for well drilling muds. Filed June 19, 1958 by Dril-Kem, Inc., Houston, Tex. Claims use since Oct. 19, 1955.

Bioferm — This for preparations for use in the treatment of insects. Filed May 1, 1959 by Bioferm Corp., Wasco, Calif. Claims use since Dec. 26, 1958.

Zero Master — This for antifreeze preparations with rust inhibitor for use in automobile radiators. Filed Dec. 4, 1959 by Gold Seal Chemical Corp., Brooklyn, N. Y. Claims use since Sept. 1, 1956.

Zero Safe—This for anti-freeze preparation for use in automobile radiators. Filed Dec. 4, 1959 by Gold Seal Chemical Corp., Brooklyn, N. Y. Claims use since Sept. 1, 1956.

Xall — This for herbicides. Filed Dec. 7, 1959 by Amchem Products, Inc., Ambler, Pa. Claims use since Nov. 20, 1959.

Ant Diner — This for ant-killing insecticide. Filed May 2, 1960 by Sterling Co., St. Louis, Mo. Claims use since Mar. 10, 1960.

Dapper—This for starch. Filed May 16, 1960 by the Dill Co., Norristown, Pa. Claims use since May 4, 1960.

Sprayaway — This for chemical compositions used in spray-washing vehicles — namely, compositions comprising dispersants, detergents, surfactants, and water conditioners used in a spray-type process to clean vehicles. Filed May 1, 1958 by W. D. Moore Co., Tulsa, Okla. Claims use since Jan. 17, 1958.

Zip—This for liquid detergent used in removing grime, stains, and grease from machines, floors, metal and plastic surfaces. Filed Aug. 13, 1959 by Bon Ami Co., New York. Claims use since Aug. 4, 1959.

Endox — This for composition for cleaning and removal of rust from metal articles. Filed May 17, 1960 by Enthone, Inc., New Haven, Conn. Claims use since Feb. 10, 1960.

Refresh-Knit — This for soap to clean and condition knit wear. Filed Apr. 13, 1960 by Peter Freund Knitting Mills, Inc., North Bergen, N. J. Claims use since Mar. 28, 1960.

Liqua Clean — This for all purpose detergent in liquid form. Filed Apr. 18, 1960 by Hagan Chemicals & Controls, Inc., Pittsburgh. Claims use since Aug. 27, 1959.

Get — This for sudsing cleaner, cleanser, and detergent. Filed Apr. 19, 1960 by Procter & Gamble Co., Cincinnati. Claims use since Mar. 4, 1960.

Bay — This for sudsing cleaner, cleanser, and detergent. Filed Apr. 19, 1960 by Procter & Gamble Co., Cincinnati. Claims use since Mar. 4, 1960.

Bucket O' Suds — This for car washing powder. Filed June 16, 1960 by Roanoke Chemical Co., Salem, Va. Claims use since July 1, 1947.

Super Sheen—This for automotive polishes. Filed July 8, 1959 by Liquid Glaze, Inc., Lansing, Mich. Claims use since Nov. 8, 1949.

Mr. Potts—This for scouring pads and pad holders. Filed April 15, 1960 by Silver & Co., San Francisco. Claims use since April 5, 1960.

Lucky—This for bleach and household deodorant. Filed July 14, 1959 by Lucky Stores, Inc.. San Leandro, Calif. Claims use since April 13, 1959.

Germi-san—This for disinfecting and sanitizing solution. Filed Nov. 16, 1958 by Los Angeles Soap Co., Los Angeles, Calif. Claims use since Feb. 28, 1959.

No Crab—This for exterminating weeds. Filed Feb. 23, 1960 by Amchem Products, Inc., Ambler, Pa. Claims use since Jan. 25, 1960.

Kode — This for insecticide. Filed April 5, 1960 by O. M. Scott & Sons Co., Marysville, O. Claims use since March 10, 1960.

Ru Glyde—This for cleaning rubber, plastic, leather. Filed April 8, 1960, by American Grease Stick Co., Muskegon Heights, Mich. Claims use since Aug. 15, 1951.

Fantastik—This for spot remover. Filed Oct. 28, 1959, by White Frost Chemicals, Greenwich, Conn. Claims use since Jan. 15, 1959.

Pantaloon Daily Maintainer — This for cleaning and sweeping composition. Filed Dec. 8, 1959 by Cellowax Co., Baltimore, Md. Claims use since Aug. 17, 1959.

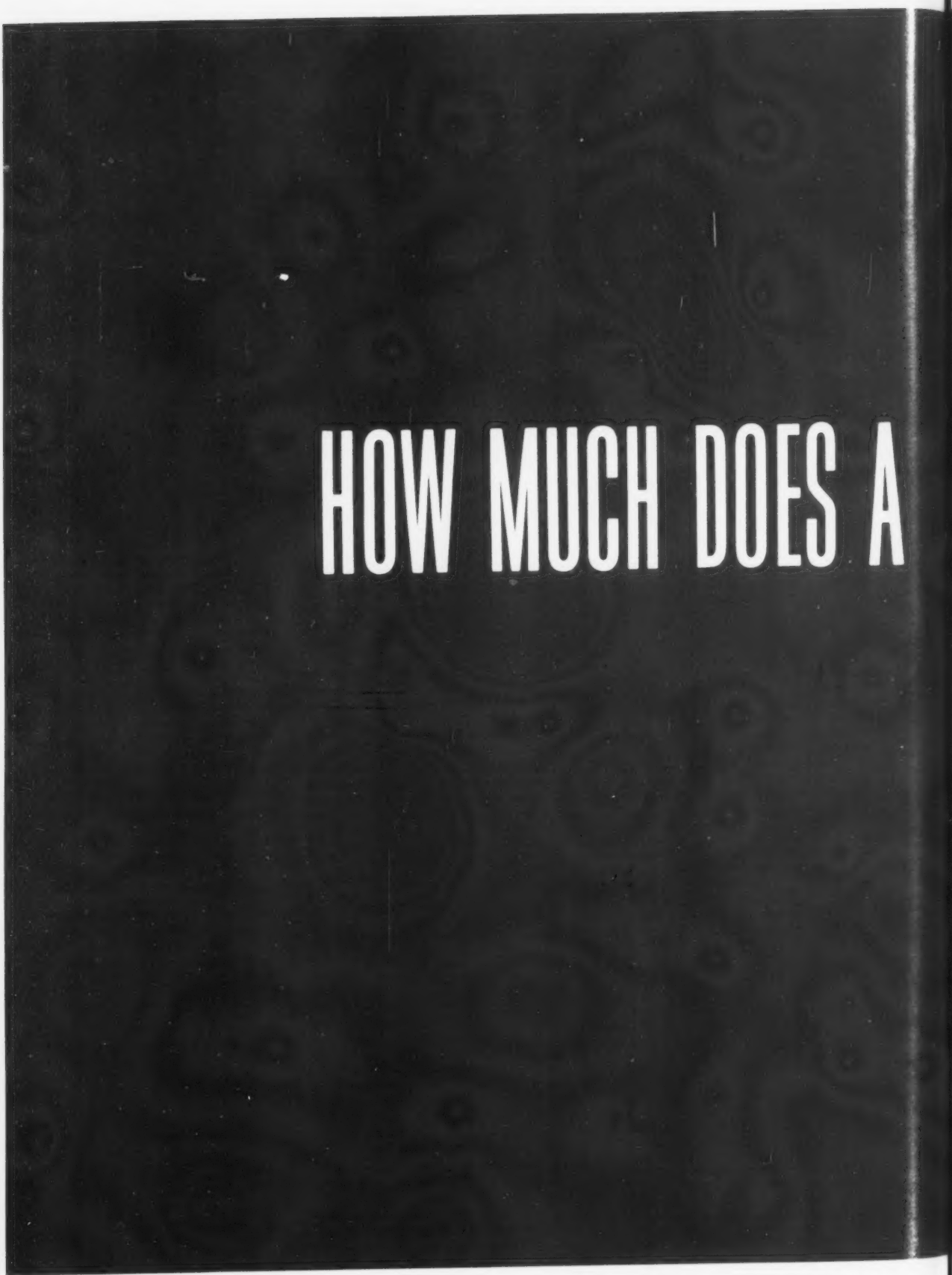
Safe-See—This for windshield and window glass cleaner. Filed Dec. 10, 1959 by Fulco, Smyrna, Ga. Claims use since June 8, 1959.

Dresser Dri—This for granular preparation for absorbing oil, grease, and water from floors. Filed Mar. 18, 1960 by Magnet Cove Barium Corp.. Houston, Tex. Claims use since Oct. 4, 1957.

Amylaze—This for dry, spotting or wet cleaning of all kinds and types of material and clothing. Filed Apr. 12, 1960 by National Lab. Co., Montgomery, Ala. Claims use since Feb. 25, 1960.

Sea-Swirl—This for chemical composition constituting a detergent and bilge cleaner. Filed Apr. 14, 1960 by Osrow Products Co., Glen Cove. N. Y. Claims use since Mar. 10, 1960.

Super Ream—This for chlorinated dairy equipment cleanser in powder form. Filed Sept. 24, 1959 by Monarch Chemicals, Inc., Minneapolis. Claims use since in or about Feb. 1958.


HOW MUCH DOES A



CONSUMER COMPLAINT COST?

A LITTLE CARE IN THE CHOICE OF YOUR SUPPLIER WILL GO FAR IN CUTTING COMPLAINTS AND REJECTS.

That's why Precision Valve Corporation takes a lot of care in processing their valves . . . quality controls at every step of the way reduce the chances of rejects to a minimum, and continuing research reduces the minimum.

Take care... take Precision Valves for your aerosol products.



PRECISION VALVE CORPORATION
700 Nepperhan Avenue, Yonkers, N.Y.

NEW FROM FULD!

NOW YOU CAN ENJOY THE PROFIT-PACKED BENEFITS OF PRESSURIZED-PACKAGED PRODUCTS—THANKS TO FULD BROTHERS' QUALITY-CONTROLLED

AEROSOL CUSTOM FILLING SERVICE!



SMALL LOT RUNS OUR SPECIALTY

Now, even if you are a *limited market* distributor, you can send your sales curve "straight up" with Fuld's aerosol custom packaging service. We handle oil and water bases, liquid and foam products of all types . . . insecticides, air fresheners, polishes, bug killers, spot cleaners, deodorants, bactericides, etc. for household, institutional, and industrial use.

Take advantage of our extensive facilities for product development, merchandising research, custom packaging and quality control.

COMPLETE SERVICE FACILITIES

• PRODUCT DEVELOPMENT

We will custom blend to your formula specifications or, package our own tested and proved products under your label—or, assist you in developing new products!

• MERCHANDISING RESEARCH

A recognized leader in aerosol packaged sanitation products, Fuld offers valuable merchandising assistance gained from its experience and continuing research.

• QUALITY CONTROL

Fuld guarantees rigid quality control on all production, regardless of the size of the run . . . the same consistent quality control that has been our policy for over 30 years.

• CUSTOM PACKAGING

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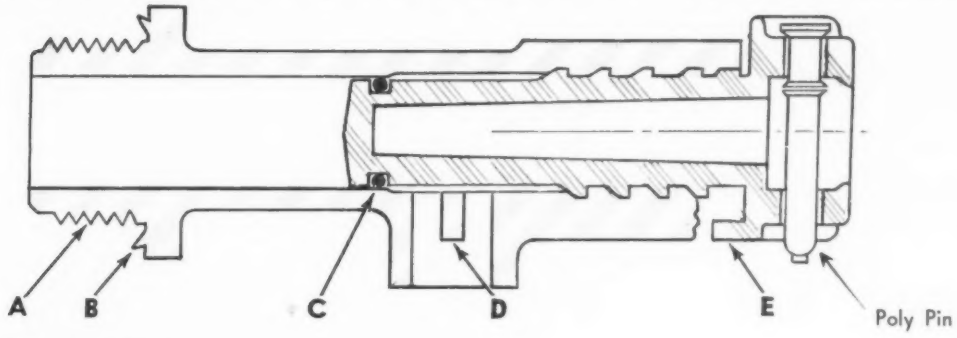
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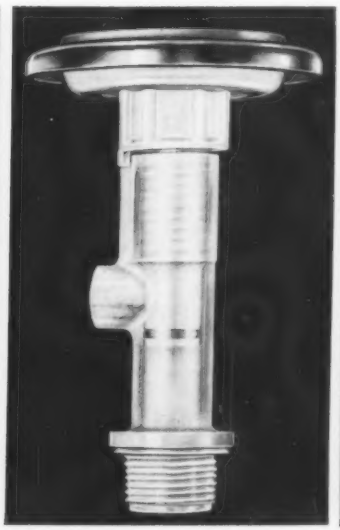
   D. Baffle in the spout of the faucet minimizes swirl of the material when dispensing, thereby effecting a controlled flow.

   E. Stop knob on the stem of the faucet. This prevents over tightening the faucet thereby eliminating stresses in the shut off position.

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Aerosols in Argentina . . .

By Charlotte Haas,
Associate Editor

PRESSURE packaging in Argentina, only three or four years old, has been hindered by severe import duties on finished products as well as components. Argentina's production is expected to total 800,000 units in 1960, an increase of better than 50% over last year's figure of 300,000 units. Such giant advances have now become feasible because industry has got into stride making components at a rate which should take aerosols out of the luxury class in the immediate future.

These views were expressed by two executives from Argentina visiting the U.S. who granted a special interview to *Soap and Chemical Specialties:* Dr. Enrique R. Rusconi is managing director of Sintaryc Ind. y Com., S.r.l., Buenos Aires, one of the two major custom fillers in the country. His firm claims to account for 70 per cent of the total output. Dr. Rusconi was accompanied by Jorge H. Ravenna, managing director and technical head of Aeroton, S.r.l., Buenos Aires, only valve manufacturer in Argentina and licensee of Risdon Manufacturing Co., Naugatuck, Conn. Aeroton is only three months old and was organized expressly to initiate valve manufacture in Argentina. This departure should greatly contribute to lowering the cost of aerosols, since all valves had to be imported until now and were subject to an 82 per cent duty.

Currently, no glass containers, coated or uncoated, are being used. They are expected to appear on the market in the not too distant future, according to Dr. Rusconi. The Argentinian filler has at his disposal metal containers of domestic manufacture exclusively. He can choose between one piece aluminum cans made by Extrusion, S.A., an Argentinian firm of German origin, and a Crown type can made by Liubicht, S.r.l.

Since there is a 300 per cent import duty on propellants, only Argentine made fluorinated hydrocarbons are used. These are produced by Ducilo, S.A. under a du Pont license and are marketed as "Freons". Only "Freon" 12 and 11 are being manufactured at this time. Propellant 12 sells at 220 pesos a kilo or about $1.22 a pound. Safca, S.A., the second major loader and Sintaryc's competitor, is reportedly loading one product with butane.

Hair sprays lead the Argentinian aerosol market by a wide margin, accounting for about 70 per cent of total sales. They are "wetter" than our hair sprays because they are loaded with a lower percentage of the high priced propellant. To make up for this deficiency they are dispensed through valves featuring a mechanical break up button, Dr. Rusconi explained.

A six ounce can of hair spray sells for the equivalent of from $1.50 to $2.00, a high price measured against the low wage scale (by American standards) prevailing in Argentina. However, a conventional four ounce squeeze bottle of hair lacquer retails for as much as $1.00.

Second largest seller in the Argentinian market is pressure packaged paint, third is spray-on color for hair, with space deodorants taking fourth place. Two or three brands of aerosol shave cream are on the market but their growth is stunted by lack of promotion, according to Dr. Rusconi. Paint removers, spot removers, and Christmas snow are also sold in pressure packages.

"Metiderm", an external hormone preparation by Schering

Dr. Enrique R. Rusconi (left), managing director of Sintaryc Ind. y Com., S.r.l., Buenos Aires aerosol custom loader, and Jorge H. Ravenna, managing director of Aeroton, S.r.l., of Buenos Aires and Moreno, only valve manufacturer in Argentina. The two men were interviewed in New York during three weeks visit to U. S.





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Corp. is the only pharmaceutical currently being loaded. Actually "Metiderm" was the pioneer aerosol in its category in the United States. There are no food products being packaged in aerosol form, in fact there is no loading with nitrogen or nitrous oxide at this time, according to Dr. Rusconi.

Various pressure packaged insecticides are currently on the market, but high price has been a severe handicap in this field, Dr. Rusconi reported. "Shell-Tox", an insecticide spray made by the Argentinian associate of Shell Oil Co., sold for two seasons, 1958 and 1959, but was discontinued this year.

When we questioned Dr. Rusconi on Syntaryc's operation, we found that the firm currently operates one fillling line with four gassing stations and is getting ready to start a separate cosmetic line. Capacity at this time runs to about 15 six ounce cans per minute. Actually, the firm is what we would call a private label formulator and packager of a wide range of both conventional and pressurized personal products and chemical specialties.

In Argentina the loader's task begins with preparation of the can which is supplied by the manufacturer without lining. It is up to the filler to develop the correct lining for the product to be loaded and to apply the lining, which in most instances is of the epoxy type. For most of his customers he develops the concentrate and the propellant/product combination. Prices of cans and valves run about twice as high as in the United States, so his cost problem is acute.

About ten different distributors are marketing their own lines of aerosols in Argentina, Dr. Rusconi estimates. One of the major distributors is Redy, S.A., using the brand name "Zipo" for a line including hair sprays, insecticides, space deodorants, etc. This firm's most recent product is the first pressurized insect repellent to be loaded in Argentina. Due to be placed on the market within the next few weeks under the "Zipo" label, the product is based on diethyl toluamide.

"Sedal" hair spray is marketed by Lever Brothers Co. Safca, S.A. loads hair sprays for Elizabeth Arden and Helena Rubenstein. Dr. Rusconi explained that future plans definitely include aerosol colognes. Sun tan oils are not being pressure packaged at this time, because they are considered too expensive.

One of the foremost marketers of spray paints, Masciorini, S.A., uses the trade name "Mono" for coatings and other pressurized items.

Aeroton S.r.l., of which Mr. Ravenna is general manager, fabricates valves, caps and auxiliary components. Organized only a few months ago, the firm has offices in Buenos Aires and a plant at Moreno, B.A. The latter is a one story modern building offering 10,000 feet of floor space, to which an addition of equal size is currently being constructed.

Main purpose of Mr. Ravenna's three weeks' stay in the United States was personal contact with Risdon Manufacturing Co., whose Naugatuck, Conn., plant he visited. At present, Aeroton will continue to import certain valves, but eventually the firm plans to make Risdon's full line.

Argentina's only valve manufacturer employs at this time 25 operators and eight technical personnel. Mr. Ravenna indicates that Aeroton's production line will follow closely the pattern set by Risdon.

—★—

New Aerosol Packaging Co.

Pacific Aerosol Packaging Co., Mt. Eden, Calif., is a new packaging firm in the San Francisco bay

(*Turn to Page* 212)

Yardley of London, Inc., New York, has introduced a new spray mist, available in five fragrances: "Red Roses," "Lavender," "Bond Street," "Flair" and "April Violets." Newly designed one-piece container, of shimmering golden metal, features a spray-through top, (no cap.) A locking device (twist of the top to lock position), prevents leakage when travelling. Comes in two sizes, two and four ounces, retailing for $2 and $3.25 respectively.

"SBT-12 Hospital Antiseptic Spray" of Lever Brothers Co., New York, industrial division, is offered for specialized disinfecting use in hospitals and other institutions. Hospital pathogens including antibiotic-resistant staphylococci are claimed to be controlled by "SBT-12." Designed for treatment of a wide range of surfaces, product's uses include operating and isolation room areas. Said to be non-irritating, non-corrosive.

A new gift series of spray-colognes by Shulton, Inc., New York, each with its own individual sculptured-gold, stained-glass aerosol container, will be featured in pre-holiday advertising by the firm. Each bottle has its own gift carton, retailing at 2 ounces for $2.00.





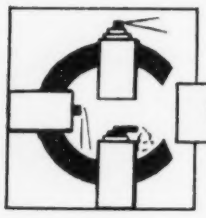


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Hulten in New Post

John R. Hulten has been named manager, specialties chemical marketing for Union Carbide



John R. Hulten

Chemicals Co., New York, it was announced late in November. He is responsible for marketing of "Ucon" brand fluorocarbons to aerosol and agricultural formulators. Formerly manager of fluorocarbons marketing, Mr. Hulten joined Carbide at the Mellon Institute of Industrial Research, Pittsburgh, in 1941. He has since been with the firm except for three years spent in the U.S. Navy.

Following World War II he joined the sales department of Union Carbide Chemicals as a technical representative. Later he became district manager of Albany, N.Y., and Philadelphia, central division manager, and was appointed to his most recent post in 1957.

—★—

Two New Aerosol Overcaps

Two new bright gold overcaps for aerosol containers have been introduced recently by Wal-



ter Frank Organization, Hillside, Ill., package engineers and designers.

Available in either brass or aluminum is an extra-height straight-side cylinder for use with highly decorated containers. Another model comes in either brass or gold, features an extra wide reverse flare, to give a "cosmetic" touch to modern, simple container decoration. Caps are available in bright or satin gold finish as well as in special metallic finishes.

Super "Dylan" plastic container designed and manufactured for Schering's "Topical Foam Aerosol" by Emson Research, Inc., Bridgeport, Conn. Three part plastic container is said to afford safety for aerosol products, particularly those which use glass inner containers. Unit is more economical than metal outer containers. Designed for use with Emson metered valves, similar packages can be custom designed for any aerosol product manufacturer using Emson valve assemblies.



Continental Adds Two

Ralph H. Winslow and Louis J. Planinsek have joined Continental Filling Corp., Dan-



Ralph H. Winslow

ville, Ill., it was recently announced.

Mr. Winslow is plant and quality control chemist at Continental's Hobart, Ind., plant. He was formerly with Cities Service Oil Co., in petroleum hydrocarbon operations, and also was a chemist with the Quaker Maid Co.

Mr. Planinsek is a member of the chemical quality control staff at the Danville, Ill., plant. He formerly held a similar position with the American Agricultural Chemical Corp.

Louis J. Planinsek



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New Rutgers Aerosol Research Laboratory

RUTGERS University College of Pharmacy held a "Symposium on Aerosols," Nov. 17, as part of the ceremonies opening a new aerosol research laboratory. The symposium was attended by pharmaceutical and cosmetic chemists in aerosol research.

Dr. Roy A. Bowers, New Jersey State University pharmacy dean, spoke at the dedication of the new laboratory, which was made possible through a grant from Edmund Bennett, president of Fluid Chemical Co., Newark, N. J., contract packager. Dr. Bowers said: "We are pleased to be able to add this new research and teaching facility to our college. It will help us educate pharmacists and other research personnel for the aerosol industry which has grown to over $1.2 billion in annual sales in the period since World War II."

Anthony Iannacone, technical director, Fluid Chemical Co., was symposium moderator. Dr. Francis Mina, clinical research associate, Reed & Carnick, Kenilworth, N. J., described "The History and Romance of Aerosols." Walter Beard, director of research, Risdon Manufacturing Co., Naugatuck, Conn., discussed "Containers, Valves and Propellants." "Problems in Aerosol Formulation" were reviewed by Victor DiGiacomo, perfume laboratories administrator, Givaudan-Delawanna, Inc., New York, and Theodore Dunne, technical service representative, Allied Chemical Corp., Edgewater, N. J., talked on "Aerosols As a Pharmaceutical Dosage Form."

Dr. Mina gave a dictionary definition of the word history as "a tale depicting marvelous achievement." This definition, he said, truly describes the aerosol industry, which up to 1957, placed on the retail market 575 million units of non-food pressurized products. Speaking more particularly, he conservatively estimated that 11 million units of pharmaceutical aerosols had been marketed up to 1959.

Mr. Beard, speaking on "Containers, Valves and Propellants," used visual examples and lantern slides to supplement his presentation. Exhibited were containers of stainless steel, plastic, glass, coated glass, aluminum, and tin plate; in sizes ranging from 35 ounces to one cc vials for pharmaceuticals. Diagramatic slides illustrated the workings of a variety of valves and seating arrangements. The problems of suiting a container, valve and propellant, to a formulation was illustrated by the growth of the polyethylene tube, within the container, when in prolonged contact with certain chemicals in the product being packaged. This is one of the prime causes for a non-functioning aerosol; (the tube coming in contact with the can) which can be corrected by splitting the end of the tube.

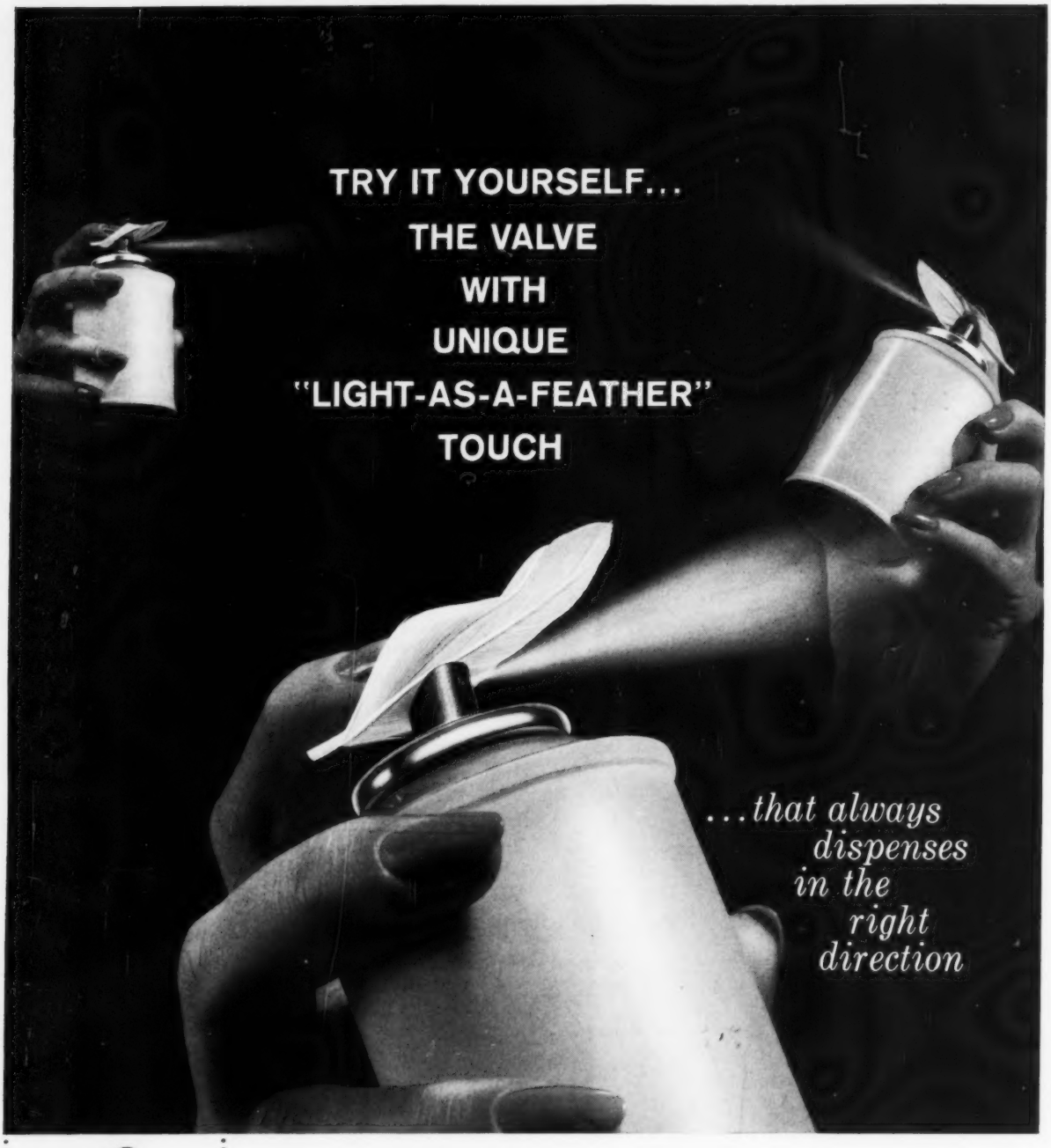
"Problems in Aerosol Formulation," discussed by Victor DiGiacomo, emphasized compatibility studies of formulations, in regard to container coatings, propellant, valves and production equipment, especially in the field of fragrances. Mr. DiGiacomo demonstrated the importance of correct amount of pressure in the formulation. He employed three cans of shave cream with varying pressures. The formulation with low pressure came out soupy; the one with too much pressure came out rubbery, while the correct pressure produced the true foam. He stressed the need for a check list in formulating an aerosol product. Included are viscosity, the importance of "flowability," propellant, requires careful selection to insure stability, and concentration, chosen with regard to need. Another demonstration pointed up the difference between fluorocarbons and compressed gas used as the propellant in hand cream and cold cream.

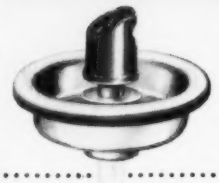
The advantages of aerosol packaging in pharmaceuticals were outlined by Theodore Dunne, technical service representative, Allied Chemical Corp. He stated, for the first time sterility of the product and applicator can be maintained. Aerosol packages eliminate the factor of instability of product during storage and use. Using an aerosol prevents spreading of secondary infections and eliminates waste. There is no danger of children taking an injurious amount of toxic medicine, since the dosage is controlled by a metered valve.

(*Turn to Page* 257)

Participants in the symposium on aerosols, held Nov. 17, as part of the ceremonies marking the opening of a new aerosol research laboratory at the Rutgers University College of Pharmacy, Newark, N. J. Panelists, left to right: Theodore Dunne, Allied Chemical Corp.; Francis A. Mina, Reed & Carnick, Victor DiGiacomo, Givaudan-Delawanna, Inc., and Walter A. Beard, Risdon Manufacturing Co.







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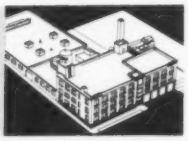
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New Coast Filler

(*From Page* 205)

area. President of the firm is Arthur R. Mertens, formerly household products manager, S. C. Johnson and Son, Inc., Racine, Wis., and vice-president — marketing, Carling Brewing Co., Cleveland.

Walter K. Lim is in charge of operations. He was formerly technical director for Par Industries, Inc., Los Angeles contract aerosol packager, and chief chemist, Purepac Corp., Los Angeles.

Gerald V. Todd, who is in charge of production for Pacific Aerosol Packaging, formerly was industrial engineer, Riker Laboratories, Inc., Los Angeles, and design engineer for Mojonnier Associates, Franklin Park, Ill.

—★—

Puritan Appoints Two

Appointment of Joseph J. Winer to the newly-created post of assistant to the president, and assistant treasurer of Puritan Aerosol Corp., Boston contract packaging and aerosol loading firm, was announced recently by Harvey White, president. Formerly comp-



Joseph J. Winer

troller, Mr. Winer is succeeded in that capacity by Richard H. Daley.

In addition to administrative duties, Mr. Winer is in charge of purchasing and customer service. The latter responsibility includes assisting customers in solving problems associated with filling and marketing new aerosol products.

Mr. Winer has been with Puritan since its formation during World War II. He held the position of office manager when the company entered the custom loading field in 1948 (it had been engaged in liquid filling exclusively), and since that time has served in various management capacities, including assisting customers in new product planning.

Mr. Daley is responsible for supervision of office personnel, and will assist management in creating new accounting systems, including cost control and inventory control.

Richard H. Daley



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Left to right—TMC 2, 3, 10 and 5 lb. King Size Disposable Aerosol Containers

BIG Packages that are Opening Up BIG New Markets

▶ Now YOU can make Aerosol sales-building advantages work for you in a BIG way.

You can now sell your product in pounds, quarts and gallons by using TMC King Size Disposable Containers.

They move more of your products...at more dollars per unit of sale...to more users...in consumer, commercial, industrial, institutional and many other volume fields.

In addition,—they give design engineers a new basis for new products such as oxygen resuscitators, fire extinguishers, torches, lanterns, camp stoves and other items selling to volume markets.

TMC Disposable Containers are made in a wide range of sizes and shapes for working pressures including 240 psi and 1800 psi in conformance with ICC specifications.

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aerosol patents

No. 2,953,284. Pressurized Dispenser, patented by Samuel B. Prussin, Westport, and Herman R. Shepherd and Fred Presant, Bridgeport, assignors to Aerosol Techniques, Inc., Bridgeport, Conn. Described is a dispenser comprising in combination: a container; a viscous bulk substance having a viscosity of at least 1000 centipoises at 20° C. which is to be dispensed, said substance partially filling said container; a pressurized medium in the remaining portion of said container which is insoluble in said viscous substance exerting pressure directly on the upper surfaces of said substance, the said pressurized medium being a propellant gas which acts as a piston against the upper surface of said substance; and a lubricating medium being present on the interior surfaces of said container to facilitate dispensing of said substance from said container by means of said pressurized medium said lubricating medium being incompatable and insoluble in said substance and being adherent to the inner surfaces of said container whereby the dispensing movement of said viscous bulk substance under the piston action of said gas occurs without cavitation of said substance and without an increase in bulk of said substance after dispensing due to the dissolving and fragmenting action of said gas on said substance.

No. 2,956,927. 5.5-Dialkylhydantoin-Formaldehyde Resin Aerosol Hair Spray, patented by Samuel Grant, Glencoe, Ill., assignor to Helene Curtis Industries, Inc., Chicago. Revealed is a fixative composition adapted for application to the hair as a spray comprising: a water soluble 5,5'-dialkylhydantoin-formaldehyde resin dispersed in a vehicle, said vehicle comprising a lower volatile aliphatic alcohol and a volatile polyhalogenohydrocarbon of less than three carbon atoms containing fluorine as one of the halogens, the resin being at least about one percent of the composition.

No. 2,957,838. Hair Spray Composition Containing Lower Alkyl Half Ester of an Ethylene-Maleic Anhydride Copolymer, Alcohol and Propellant and Process for Making, patented by Charles L. Mills, Jr., Longmeadow, Mass., assignor to Monsanto Chemical Co., St. Louis, Mo. The invention covers a composition adapted for use as a hair spray comprising (*a*) about 0.5-5.0 weight percent of a copolymer of maleic anhydride and an olefin containing 2-4 carbon atoms, said copolymer having a molecular weight of about 25,000-70,000 and being esterified to the extent of 50-70% with a saturated aliphatic alcohol containing from 1-4 carbon atoms, dissolved in (*b*) about 25-50 weight percent of a solvent consisting of anhydrous saturated aliphatic alcohols containing 1-4 carbon atoms and (*c*) about 49-74% of a propellant consisting of a halogenated alkane containing 1-5 carbon atoms and being capable of exerting a total pressure of 25-50 p.s.i. at room temperature.

No. 2,954,678. Method of Dispersing Materials, patented by Thomas J. Mahon, Englewood, N.J., and Albert L. Edelstein and Joseph Glickstein, New York, assignors, by mesne assignments, to Association for Physiologic Research, Inc., New York. The patent describes apparatus for dispersing, spraying, atomizing, and nebulizing a liquid medicine by the action of a gas evolved from an organic liquid, self-pressurizing propellant, comprising a closed, propellant container, a body of said liquid organic self-pressurizing propellant within the propellant container and partially filling the container providing an evolved gas space over the propellant liquid, a valve mounted atop the container effective upon actuation thereof to open the valve to communicate the gas space with the outside of the container, whereby upon actuation of the valve to open it, gas is evolved from the liquid propellant and issues through the valve, and a plurality of sealed individual packages disposed in said body of liquid propellant and having heat permeable wrappings and containing methyl myristate, whereby there is provided a liquid substance adapted to solidify with the evolution of heat upon cooling thereof by said propellant and resulting from vaporization and gasification of propellant, in order to maintain the temperature of the liquid propellant at a predetermined level during delivery of propellant from the container.

★

Aero-Spray Starches

A new group of starch specialties for aerosol and spray-on type liquid laundry starches was announced recently by National Starch and Chemical Corp., New York. The new specialties are referred to as "Aero-Spray" starches.

Main advantage, according to National, is prolonged stability that prevents jelling, settling and clogging of spray nozzles. Solutions of "Aero-Spray" starches are said to remain thin for spraying at approximately 5% solids, yet produce crispness comparable to customary dilutions of ordinary laundry starches.

Three grades of "Aero-Spray" starches are currently available: one that requires cooking; another that is pre-cooked; and a third that is pre-cooked and offered in concentrated liquid form.

★

Charles C. Orcutt Dies

Charles C. Orcutt, 92, retired president of Carter Products, Inc., New York, manufacturers of "Rise" aerosol shave cream, died Nov. 13, in his Palm Beach, Fla., home. He was associated with the firm from 1905 until his retirement in 1940.

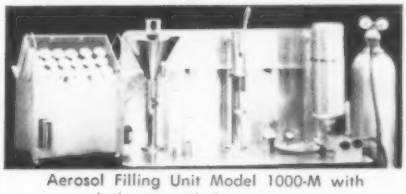
Mr. Orcutt is survived by his widow, Ruth; a daughter, Mrs. Henry H. Hoyt, wife of the present president of Carter, and a son, Brent G. of Seattle.

AEROSOL LOADING

for under

$400

model 1000-m, including: gasser, filler, crimper, pressure tester, support rack and shelf $397.50
FOB West Palm Beach, Fla.



Aerosol Filling Unit Model 1000-M with leak test tank & accessories

IDEAL for LABORATORY or SHORT RUN PRODUCTION

Accessories and Cost:			
Bottle Crimper	$189.50	Agitator	34.50
Nitrogen Regulator	47.00	Nitrogen connecting hose	4.50
Leak Test Tank (stainless steel)	179.50	Valve Adapters (specify)	4.00
Scale	22.50	Propellant Rack (holds five 25 lb. cyls.)	225.00
Can Crimper (manual)	$159.50		

Now You Can Fill Using:

FLUOROCARBON, NITROGEN AND CO_2 PROPELLANTS

. . . The Pressure Pak Model 1000-M with accessories is fully capable of performing all aerosol loading tasks required in laboratory development and short run production. Constructed primarily of stainless steel and aluminum, the Pressure Pak 1000-M requires only eight square feet of space for set up.

TECHNICAL AID AVAILABLE: The engineering department of Pressure Pak will furnish technical assistance on general formulation and aid in locating sources of supply for components upon request. There is no charge for this service.

DIRECT ORDERS & INQUIRIES TO: Dept: B-1

Pressure Pak, inc.

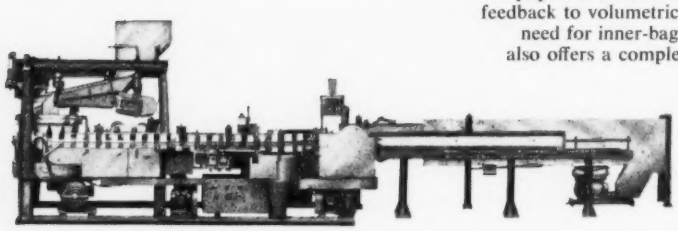
420 Monceaux Road West Palm Beach, Fla.



FMC Neverstop meets Lever Brothers requirements for high-speed carton filling

"ALL" detergent, marketed by world famous Lever Brothers, has been packaged on FMC Neverstop carton filling and sealing machines for several years. The performance-proved Neverstop assures Lever Brothers of consistent precision filling on long runs with a minimum of attention. The three carton sizes illustrated range from 1 lb. 8 oz. to 9 lb. 13 oz.

Lever Brothers is one of many well-known companies who rely on Neverstop for packaging such products as soap powders, cereals, rice, cake mixes, etc. • The Neverstop automatically opens cartons from a magazine supply then code dates, bottom seals, fills, top seals and delivers them under the supervision of a single attendant. • Six models offer a wide choice of speeds (up to 450 per minute), capacities (up to 10 lbs.) and carton sizes (up to 11" x 15"). • Three different types of filling methods—pocket, auger and the exclusive vibrametric system—are available to handle a broad range of product flowing characteristics. New multiple filling head can simultaneously fill two or three different products into a partitioned carton. • Optional equipment includes automatic checkweighing of each carton with feedback to volumetric control . . . and Calk-Sealing to eliminate the need for inner-bags or overwraps with certain materials. • FMC also offers a complete line of both automatic and semi-automatic fillers for medium and short production runs . . . and SIG double package makers for products requiring inner bags or overwraps.



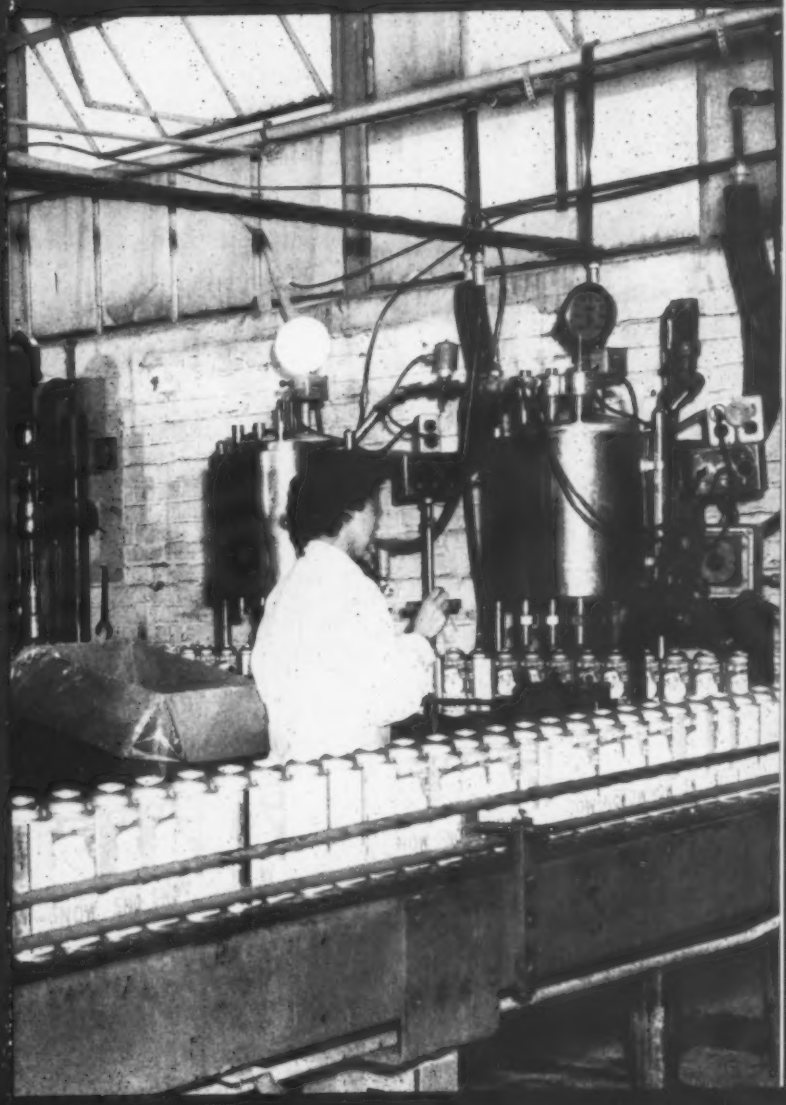
Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION
FMC Packaging Machinery Division
Stokes & Smith Plant
4928 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

For the full story of FMC Neverstop fillers, write for your copy of Bulletin P-808.

neverstop

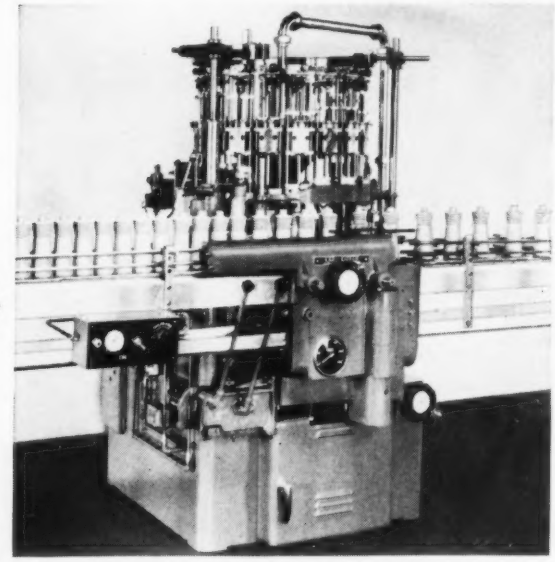
Production....



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KARL KIEFER equipment on the job.
North—South—East—West!

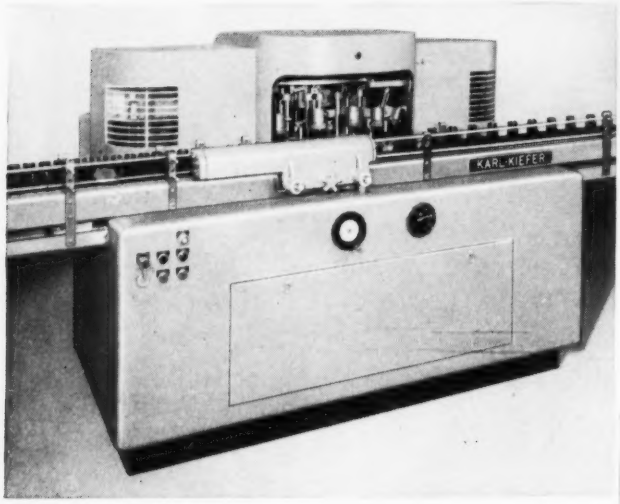


KIEFER "PIN-POINT"



PRESSURE-VACUUM FILLING MACHINES

Fill your containers WITHOUT the use of a SEAL. AMAZING ACCURACY in plastics, in glassware, in F style or #10 tins. Fillers in a great range of popular custom sizes—any speed you select.



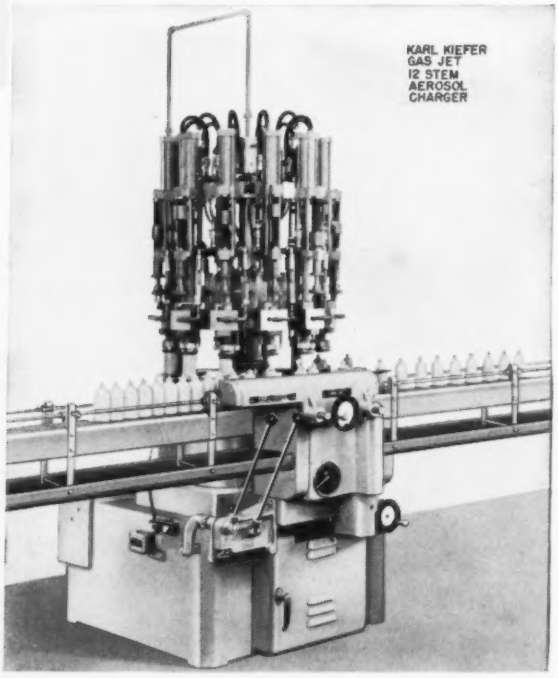
KIEFER **BOTTOMS-UP BOTTLE CLEANER**

Uninterrupted working ability! It takes the bottles from conveyor in a smooth rotary motion. Containers are inverted, then they receive a blast of filtered, compressed air. The collected dirt, dust and glass particles go into a large provided bag.
Handles from small bottles up to quarts.

KIEFER "Gas-Jet"

AEROSOL CHARGERS

Measure the propellent gas with deftness and precision. SPEEDS unlimited—built in a span of sizes.



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Why Custom Aerosol Loading?

By Harry E. Peterson*
Peterson Filling & Packaging Co.
Danville, Ill.

A CONTRACT or custom filler should (and in most cases does) package products at lower cost than the merchandiser himself. This is a rather sweeping statement but if exact records are kept of all packaging and distribution costs, this is an oft-proven truism. The large merchandiser, who sells enough volume to keep a production line operating fairly consistently, has excessive overhead problems which, if properly distributed, will bring his unit costs higher than those of a contract packager. The smaller merchandiser, who is not faced with the large overhead, does not have the volume to justify large capital expenditures.

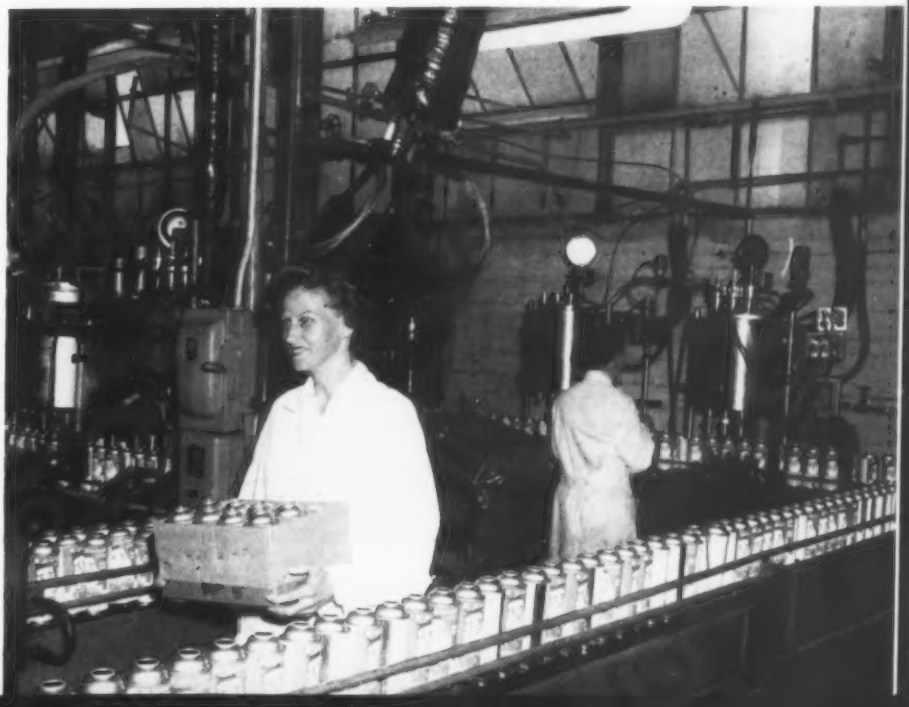
Also, higher quality standards are usually imposed upon a contract packager than can be exacted from the merchandiser's own production facilities. For example, can litho rejects on essentially the same products are higher in a contract plant than in a captive one.

A contract filler is forced to keep up to date on all changes in containers, valves, formulations and filling equipment. Extensive and costly laboratory facilities are also readily available to customers. Changes in this industry are so rapid that equipment, new a few years ago, is already out-moded and equipment depreciation charge per unit produced will usually be considerably higher than was originally figured. However, more on all of these points later.

In order to make our statements valid, a few basic prerequisites will have to be fixed. It must be assumed that:

1. We are dealing with qualified aerosol fillers;
2. That the filler is able to turn out a product that will equal (if not better) the quality control standards of their customers' captive lines; (Frankly, if this is not the case, the filler doesn't belong in the business.)
3. That the filler has the confidence of his customers and, if necessary, does the complete formulating job.

Too often we are told that the XYZ Co. will not give formulations to their fillers, but rather compound the active ingredients in its own plant and then ship them, sometimes as concentrates, to the filling plant. Usual reason for this procedure is the wish to keep the formulation confidential. Such a relationship between two firms is bound to be short lived, we believe. If a filler ever disclosed any confidential information, his business days would be numbered. Suppliers, or in fact competitors,

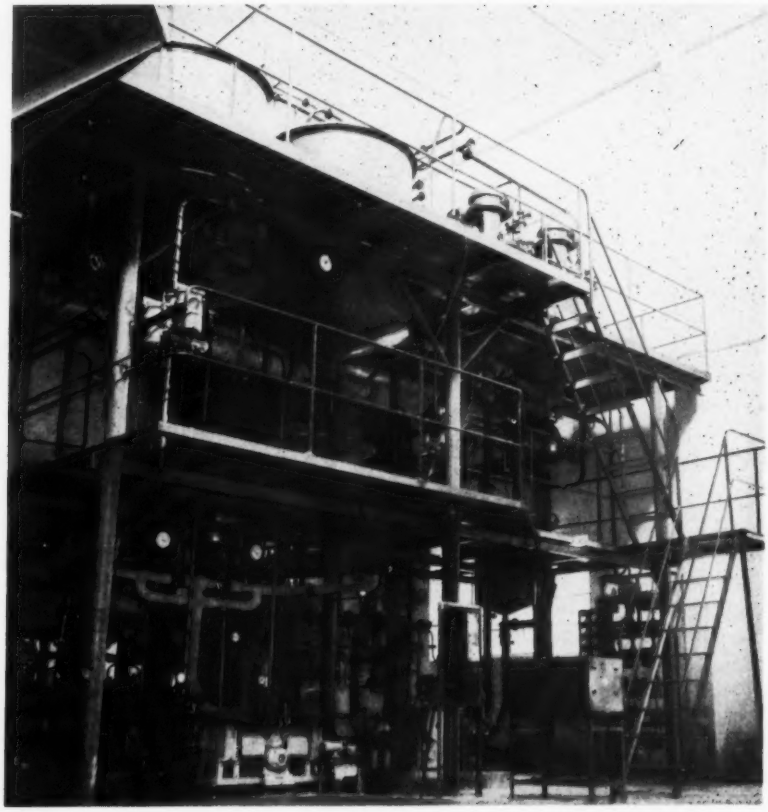


*Paper presented at third annual meeting, Canadian Manufacturers of Chemical Specialties Association, Montreal, Oct. 26, 1960.

G. MAZZONI S.p.A., BUSTO ARSIZIO, Casella Postale 421 (Italy)

Continuous and Automatic Saponification Plant For Fatty Acids.

Production capacities ranging between 500 and 6,000 Kilograms per hour



General view of the continuous and automatic saponification plant for fatty acids.

Characteristics;

Automatic control of free caustic in soap with an accuracy of ± 0.01 %

Very accurate control of the sodium chloride content in soap from zero to any required value

Maximum percentage of unsaponified saponifiable matter 0.05 %

Utilities required for 1,000 Kgs. of soap 62 — 63 % fatty acids:

Steam at 2-3 Kgs. sq. cm.	:	65-70 Kgs.
Electricity	:	10-12 KWh.
Labor	:	1 man.

OUR MANUFACTURING PROGRAM INCLUDES:

Plants for Cooling and Drying all types of soap
Continuous and Automatic toilet soap lines
Refining vacuum plodders type DUPLEX and TRIPLEX
Automatic mixers and automatic soap cutters

Automatic soap stamping machines for standard and capacity molds

Continuous sulphonating plants and spray driers for synthetic detergents
Continuous fat splitters and continuous fatty acids stills
Plants for general chemical industry

Our technical staff are at your service to help you solve any problem concerning the manufacture of your soap.

Please ask for our technical literature and bulletins.

G. MAZZONI S.p.A., BUSTO ARSIZIO, Viale Trentino 10/12, Casella Postale 421 (Italy)



can usually obtain this type of information more easily from employees of the XYZ Co. than from their contract filler.

How often does a supplier visiting a prospect expound about his competitors, giving him little tidbits of information? Who would be so naive as to believe that if he tells one something he will not do the same thing to his competitors? On the other hand, have you ever tried to get any confidential information from a reputable filler? He may answer in vague generalities but never will he give any specific data? Confidence in the integrity of the contract filler is a must.

Having established this principle, let me state bluntly and unequivocally that to the best of my knowldege there has never been a captive aerosol line installed that could be justified strictly on an economic basis. Many managements have approved such installations based upon figures given them by subordinates. But were all of the cost figures included in the presentation? Was there a proper distribution of overhead? Was the cost of the installation calculated only with the packaging equipment in mind or was the building housing this equipment also figured in the cost, Does the individual making the decision know that it takes from eight to 10 times the space occupied by the packaging equipment to properly store and warehouse the aerosol components as well as the finished packages? Have the proper obsolescence and depreciation factors been applied? Probably not, and, in all fairness, perhaps this omission was not intentional. But more about this important phase later.

Initial impetus to install a captive line usually originates with the equipment salesman, who makes the installation appear simple and inexpensive. He usually contacts the engineering or production department and "really sells" them. These departments in turn figure out approximate potential savings to their firm by installing their own equipment. These figures are turned over to top management for final decision.

Contract packagers usually find that, when a firm decides to install their own facilities, either the top management is controlled by an executive trained in production or engineering, or that the heads of those departments have a direct pipeline to top management. Where controlling management has come up through sales, purchasing, accounting, research, or legal departments, the decision is invariably to have the work done by a contract filler.

Sales departments are opposed to captive lines because of their usual lack of flexibility. Assume that a sales manager, for good reasons, wants to change his aerosol package. If his firm has its own or captive line and the new changes do not fit into existing equipment, he certainly has a harder time selling management on his changes, whatever their merit. On the other hand, if packaging is done by a contract packager, it is taken for granted that the equipment is or will be available to handle the new package.

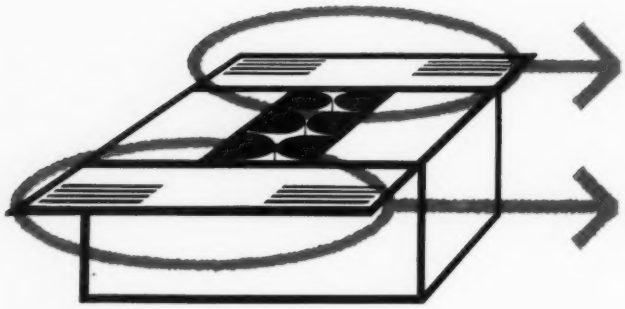
One of the hardest decisions a contract filler must make is whether a new order justifies the capital outlay for new equipment. Very few orders in themselves justify this expense, so frankly fillers must second-guess future trends of the aerosol business.

Packaging Costs

Costs for pressure packaging vary widely and understandably so. The change-over down time of a small production run quite often is longer than the production time itself. Obviously, filling charges will have to be commensurate with the time and labor involved. On the other hand, when a line can be set up and run continuously for double or triple shift operations for a week or two at a time, costs naturally will be lower. The nature of the product and the myriad of accessory packaging requirements must also be considered.

Too often we hear the complaint that filling charges are too low. In many instances this is true, but in others inefficient operators use low charges to explain their lack of business. The margin of profit based upon dollar sales of any filling firm has been compared many times to that of a large food supermart. It is not unusual for a

You are "buying right" when you upgrade your case gluing operations with the Glu-Line system. Over 100 installations confirm that this Standard-Knapp system puts glue on the case — not on your product. You gain in production hours, while you reduce maintenance and save glue.



FOR OLD GLUERS OR NEW

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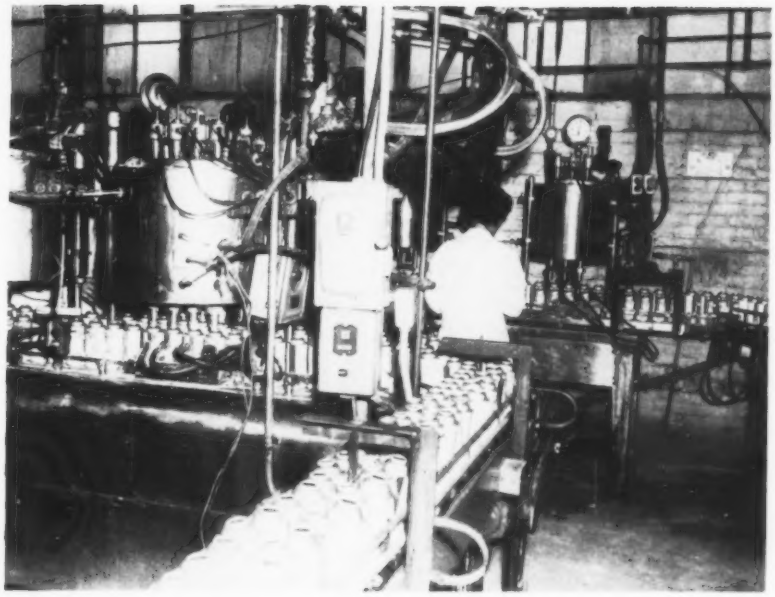
100 INSTALLATIONS

A completely enclosed forced-feed system, the Glu-Line is available for old gluers or new. Gone are glue pots and rollers — and the need to clean them. The Glu-Line uses applicators that lay down the glue in neat, quick-gripping stripes. Your cases not only look better, the area around your gluer stays cleaner. And the machine with a Glu-Line is always ready to go. Just push a button.

Get all the facts on what the Glu-Line can do for your operations by contacting Emhart Manufacturing Company, Portland Division, Portland, Connecticut.

STANDARD-KNAPP GLU-LINE IS THE APPROVED FORCED-FEED GLUING SYSTEM THAT'S READY NOW

EMHART



filler to have net profits of less than one per cent of sales. Frankly, if net profits were too much higher, reason for the existence of a contract packager could be questioned. Unfortunately, at times one runs into a situation where a customer or prospect will play one filler against another. This occurs despite research and development costs borne by the filler in initially working out the package, and in some cases after he has installed expensive equipment.

Some firms put out numerous requests for bids on products which a particular filler has satisfactorily handled for years. One case we know to be true involved a firm losing a $400,000 order because a competitor underbid them by $60.00. You have heard of bids being lost by someone being five or even two per cent high, but to change because one firm was 15/10,000 of one per cent low seems pretty ridiculous.

In all fairness, we should state that occurrences such as mentioned above are becoming less and less frequent. We believe the industry is beginning to show signs of maturing.

Obsolescence of machinery or equipment is an important factor in determining costs of installing any packaging line. There are more or less standard depreciation rates that apply to most equipment and quite often these figures are used in determining the yearly cost. However, these do not apply to the aerosol field which has not yet reached a predictable stage. New developments in products and packaging invariably lead to new and/or different types of equipment. The simple change from a small protective overcap to the newer more popular large size can and does make automatic capping equipment obsolete overnight. The use of new propellants, such as hydrocarbons or carbon dioxide, create large unplanned expenditures.

For example, in the past few months we have had to spend over $85,000 for new equipment, none of which increased our production capacity. This amount was in addition to our normal capitalization for production capacity increase. All of these expenditures merely kept us abreast of a rapidly changing business and only a small portion of this change was anticipated a year ago.

How can an engineer, who is essentially unfamiliar with the constant change in the aerosol industry, predict that the beautiful new shiny equipment which he figures will operate for a period of eight years, be obsolete say in a year or two? Any accountant can certainly point out the tremendous difference in the cost per unit if the useful life of the equipment does not come close to that anticipated. I believe that this item is probably the least understood of the cost items entering into a decision to install captive facilities.

While discussing equipment, we should also mention that most packaging engineers assume, perhaps justifiably, that new equipment will perform in a satisfactory and expected manner. I wish this were true. In most instances the large contract packager finds that his own engineers and maintenance people have to rework and in some cases rebuild the equipment after it has been installed. Equipment manufacturers have engineered many good pieces of machinery, but, unfortunately, their sales departments are too often permitted to sell these improvements before they are thoroughly tested. This leads to excessive delays in obtaining the equipment and getting it into efficient operation, which, in turn, increases costs. Also, with few exceptions, machinery for the aerosol industry is not "beefed-up" and, unless reinforced, it usually will not stand up to continuous multiple shift operation.

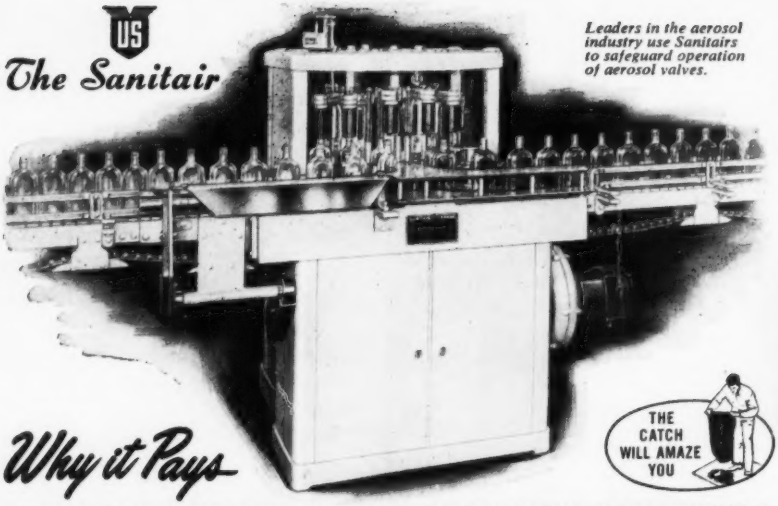
Until recently, very little attention was given to the time necessary to change over the equipment from one product or container size to another. This factor is probably more important to the contract than the captive filler.

Contract Filling Capacity

One reason often given for installation of captive filling facilities is availability of production when needed. Undoubtedly, this problem may have arisen on occasion. But, we estimate that today less that 50 per cent of contract packagers' facilities in the United States are being utilized. This figure is based on a single shift op-

(*Turn to Page* 257)

The Sanitair



Leaders in the aerosol industry use Sanitairs to safeguard operation of aerosol valves.

THE CATCH WILL AMAZE YOU

Why it Pays

TO REMOVE FOREIGN MATTER FROM NEW CONTAINERS

Packaging engineers demand it as indispensable to quality control. Merchandising managers demand clean containers for profitable consumer relations!

Air-Cleaning costs so little . . . the lack of it can cost so much. Once a Sanitair is synchronized into the production line, its operation is entirely automatic. Containers are completely inverted, *before, during* and *after* the air tubes enter, assuring positive cleaning. Has automatic operating safeguards. Speed is adjustable to line operation. Container changeover for all sizes including wide-mouth finishes. Exclusive, patented features. For complete details, write for the "Sanitair Bulletin."

U. S. BOTTLERS MACHINERY COMPANY

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The E-Z Air Cleaner



for semi-automatic air cleaning of new containers of any size or type. Containers are manually inverted over air valves, two at a time, up to 40 per minute. Write for the "E-Z Bulletin."

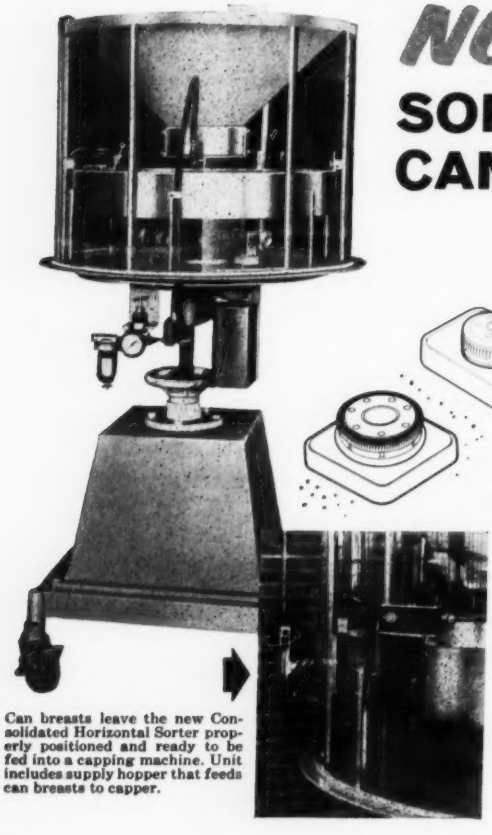


For rinsing bottles or jars, ounces to gallons as illustrated. Rinses both inside and outside with water or steam. Write for the "Rotary Rinser Bulletin."

To Feed Containers Faster



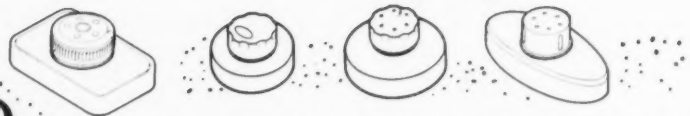
THE U. S. CONTAINER FEEDER feeds containers to the packaging line faster, easier, at a steadier pace and a lot cheaper! Just dump 'em on, and let the feeder take charge. Pays for itself quickly and reduces costs permanently. Write for a "Container Feeder Bulletin."



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soap plant observer

By Willis J. Beach
Technical Service Department,
Sugar Beet Products Co.

WHAT is new in fluid flow measurement and control, continues to be our subject in this, our third and concluding column devoted to this question. In October we mentioned that the relationship between fluid flow through an orifice and differential pressure thus created offers a means of measuring and controlling flow of liquids. If the primary element (orifice, flow nozzle, or Venturi tube) is inserted into a pipe line, the fluid velocity will be increased at this point and a localized drop in pressure will occur (Fig. 1). Most of the pressure drop is restored by the time normal velocity is obtained, about 4 to 5 pipe diameters following the primary element.

Since the differential pressure across the primary element is proportional to the square of the fluid velocity, such a parameter, used directly for measurement and so charted, requires a non-linear chart. To avoid this, several arrangements are provided to extract the square root—such as a parobolic displacer. Bailey Meter Co., for example, uses a Le Doix bell mechanism which extracts the square root of the differential pressure due to the internal shape of the bell.

As mentioned in October, a mechanism in which differential pressure remains constant across a variable area metering port, so that the position of the metering float is directly proportional to flow rate, is known as a variable area meter. Movement of such mechanisms is linear with flow.

Mechanisms responding linearly with differential pressure are also available. In one, a bellows expands and contracts with pressure changes. The movement is opposed by a spring. This opposing force causes the bellows to assume a definite position for each differential pressure.



The square root function can be extracted by means of a converter which may be attached to a measuring mechanism having an output that is linear with differential pressure. This method is based on the cosine relationship between incremental movements of a horizontal beam and corresponding angular movements of a vertical beam. In electric telemetering systems the square foot function may be obtained by use of a cam in the electric receiver.

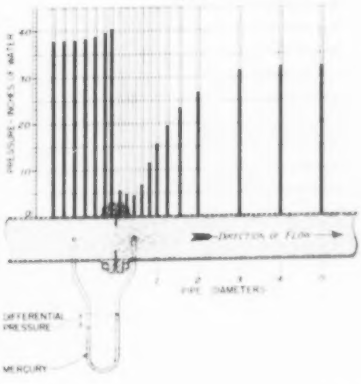
The Honeywell bellows flow meter converts differential pressure changes into motion to operate an indicator, recorder, controller or telemeter. A new bellows flow transmitter, introduced recently, combines pneumatic transmission with the Honeywell bellows meter body. It can be used to measure any flow or open or closed tank liquid levels (Fig. 2).

Flow meters may usefully incorporate an alarm. Accessories can be installed which flash lights, sound an alarm, actuate a valve, or shut off a pump should flow rate exceed or fall short of a prescribed level. Flow meters with alarms have been around for some time. The new Alarm Rotameter of Schutte and Koerting Co. serves to illustrate this accessory (Fig. 3).

The float of this variable area type meter features a rod extending upward into a stainless steel tube located in the housing. An encapsulated magnet is attached to this rod. One or two sensing switches are mounted on the steel tube. Each sensing switch assembly contains a magnet and an hermetically sealed reed-type alarm switch. These are connected with a relay coil which activates the alarm or "start-stop" switch. The sensing unit is adjustable up and down the tube allowing for a maximum or minimum flow alarm as desired. When flow rates are within desired range, the magnet on the float extension rod will remain in the range between the sensing magnets and the switches will remain in a normally closed condition, keeping the relay coils energized and the alarm circuit open.

When the flow is higher or lower than that for which the sensing devices have been set, the magnet in the float extension rod will pass either the higher or lower

Fig. 1.



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sensing device. In doing so, it interrupts a magnetic circuit within the switch caused by the field of the biasing (sensing) magnet. This causes the switch contacts to open which, in turn, open or close the alarm circuit through the relay. Fail-safe construction is one in which the alarm operates also in case of power failure. To achieve this, a second power source must be used for the alarm circuit.

Electronic alarm systems can also indicate abnormally high and low flows. In the electronic system a high frequency pickup coil is adjustable for a narrow operating area over the entire range of the scale, and it is connected to an electronic alarm such as a stable, single-tube oscillator circuit. The vacuum tube normally oscillates, providing a flow or current to energize the sensing relay. A flow range is selected which keeps the float within the range of the coil. When the float leaves the field of the coil, a sensitive relay is energized which, in turn, causes a coil in the power relay to de-energize, thus completing the alarm circuit.

A word or two about flow control will complete this review. The various types of flow control were mentioned in October. They were "proportional," "integral," and "derivative" for continuous control; and "on and off" for discontinuous control. Pneumatic means are available for continuous controllers. The system employs air under low pressure to position diaphragm motor values, power cylinders, or other pneumatically operated final control elements.

Fig. 3. Alarm Rotameter by Schutte & Koerting.





Fig. 2. New Honeywell bellows flow meter can be used to measure any flow or open or closed tank liquid levels.

The measuring unit is linked to the pneumatic control unit through a differential linkage connected to both pen and set point index. Any deviation of pen from the set point index causes a flapper (a flexible reed-like vane) to move toward or away from a nozzle connected to a regulated or compressed air supply. A restriction in the air line allows pressure to build up rapidly between nozzle and restriction when the flapper covers the nozzle. When the nozzle is uncovered, air bleeds from the system faster than it can be fed in through the restriction, and the pressure between restriction and nozzle drops rapidly.

In addition to pneumatic means of transmitting the flow signal to a recorder or controller, the job can be done electrically, as with an inductance bridge receiver. Electronic integrators are also available for totalizing flow. They usually consist of scanner, an electronic relay, and a 6-digit counter. Space does not permit details on these devices.

Where flow recorders or indicators are needed relatively close to the points of measurement, mechanically operated fluid meters are generally used. Pressure lines from the primary elements are applied directly to the instrument and the recorder or indicator is actuated by direct mechanical motion. In centralized or panel control station design, measurements of fluid control are usually transmitted to the control center by pneumatic or electrical telemetering systems. For shorter distances the cheaper pneumatic systems are favored; for longer runs, electric systems are more appropriate. In the cost of the pneumatic system, one should not overlook the costs of a separate compressor, specifically for instrument air. Use of general plant service compressed air is not satisfactory because of the varying demands on its capacity. Cost of installing filters and dehumidifiers to purify instrument air from oil and moisture vapors must also be considered.

—★—

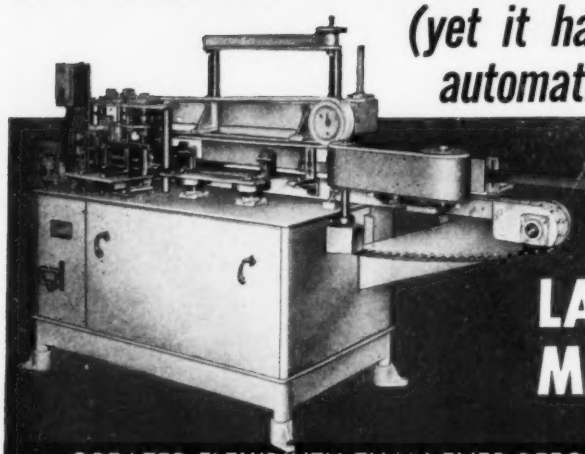
New Machinery Folder

A four page folder describing the firm's complete line of packaging machinery is now available from the Stokes and Smith plant, Food Machinery and Chemical Corp., 4900 Summerdale Ave., Philadelphia.

Specifications, features and illustrations are included for 10 types of equipment: auger filling, casing, pouch filling, etc.

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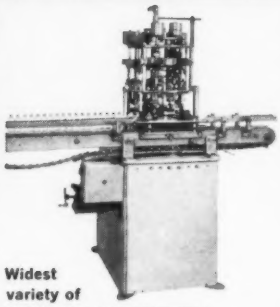
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new patents

Listed below are brief abstracts of recently issued patents. Complete copies may be obtained from the publisher of this magazine: — MacNair-Dorland Co., 254 W. 31st Street, New York 1, N. Y. Remit 50¢ for each copy. For orders received from outside of the United States send $1.00 per copy.

No. 2,945,816. Process for Preparing Detergent Bars, patented by Irving Rudolf Schmolka, Long Island City, N.Y., assignor to Colgate-Palmolive Co., Jersey City, N.J. The invention consists of a process for the preparation of slough-resistant detergent bars comprising preparing a water soluble fatty acid monoglyceride sulfate detergent salt from fatty material, said detergent salt containing more than about 1% free fatty acid and less than about 10 per cent of inorganic salt, removing said free fatty acid in excess of 1% so as to produce a fatty acid monoglycerine sulfate detergent salt containing less than about 1% of said free fatty acid, plasticizing the resulting detergent salt, and shaping said plasticized detergent salt into bar form.

No. 2,952,638. Deaeration and Purification of Anionic Detergent Compositions, patented by Robert P. Davis, Cincinnati, assignor to Procter & Gamble Co., Cincinnati. The patent claims in the process of making a high density spray dried detergent composition from a homogenous fluid slurry initially containing entrained air, and containing from about 40% to 60% of water, from about 10% to 40% of at least one water-soluble alkali metal salt of an anionic organic sulfuric reaction product having in its molecular structure an alkyl radical having from 8 to 22 carbon atoms and a radical selected from the group consisting of sulfonic acid and sulfuric acid ester radicals, the said salt having pronounced detergent power in aqueous solution, and from about 5% to 25% of sodium sulfate, the weight ratio of sodium sulfate to said anionic product being from 1:7 to 1:1, and from about 5% to 15% of sodium silicate having an SiO_2:-Na_2O ratio of from about 1:1 to about 3:1, the steps of (1) causing the homogeneous slurry to separate into a continuous lye phase which contains the inorganic materials of the slurry and a discontinuous phase which contains the organic constituents of the slurry by adding from about 1% to about 4% of at least one nonionic detergent constituted of a water solubilizing polyoxyethylene group in chemical combination with an organic hydrophobic compound selected from the group consisting of polyoxypropylene, alkyl phenol in which the alkyl group contains from about 6 to about 12 carbon atoms, the reaction product of an excess of propylene oxide and ethylene diamine, and aliphatic alcohols having from about 8 to 18 carbon atoms, said nonionic detergent having a molecular weight of from about 800 to about 11,000, (2) agitating said slurry, and (3) separating entrained air from the slurry, all percentages being by weight of the slurry after the addition of the nonionic detergent.

No. 2,949,425. Mixed Detergent Composition, patented by Peter T. Vitale, Fresh Meadows, and Robert Louis Bruns, Staten Island, N. Y., and Ralph Spencer Leonard, Berkeley Heights, N. J., assignors to Colgate-Palmolive Co., New York. The patent reveals a detergent composition characterized by controlled foaming power regulated according to variations in water hardnesses and consisting essentially of a ternary combination of water-soluble propylene tetramer benzene sulfonate detergent, water-soluble propylene pentamer benzene sulfonate detergent and water-soluble inorganic polyphosphate salt forming water-soluble complexes with hard water salts, the propylene tetramer benzene material of said sulfonate having an average molecular weight of about 242-250, the propylene pentamer benzene material of said sulfonate having an average molecular weight of about 260-310 and distillation ranges of less than about 50° F. from the initial boiling point to 10% recovery and less than 75° F. between the boiling points at 10% and 90% recovery, the ratio of the pentamer sulfonate detergent to tetramer sulfonate detergent being from 90:10 to 70:30 by weight, and the amount of said polyphosphate salt being from about 10 to 60% by weight of the composition.

No. 2,952,639. Purification of Detergent Compositions, patented by Vincent A. Sullivan, Jr., Lyon and Zdzislaw Joseph Ptasinski, Chicago, assignors by mesne assignments to Stepan Chemical Co., Chicago. The patent teaches a method of producing a substantially inorganic salt-free detergent from a composition consisting essentially of a water-soluble alkaryl anionic sulfonated detergent salt having a long aliphatic chain of 8 to 22 carbon atoms containing 1 to 20 weight per cent thereof of an alkali metal sulfate salt and having a pH of just less than 7, which method comprises intimately admixing the composition with substantially an equal weight of ethanol and water in volume ratio of 50:50 to 60:40, maintaining the admixture at 120-150° F. for a time sufficient to completely dissolve the sulfonated detergent and to effectively crystallize the undissolved sulfate salt particles therein, and then separating the crystallized salt particles from the dissolved detergent to at least pH 7.

No. 2,948,686. Thixotropic and Fast Breaking Skin Cleaner Emulsion and Process for Producing Same, patented by James L. Glanladis, University City, Mo., assignor to G. H. Packwood Manufacturing Co., St. Louis, Mo. A skin cleaning thixotropic and fast breaking skin cleaning water-in-oil emulsion is patented, composed of 20% to 70% water, 25% to 70% of a liquid, paraffinic, hydrocarbon solvent, a non-ionic hydrophilic organic detergent in an amount less than 10%, a polar organic liquid solvent selected from the group consisting of alcohol ketones, nitro paraffins and fatty acids in an amount up to 10%, and about 2% of an organophilic quaternary ammonium clay complex, all percentages by weight.

No. 2,950,253. Methods of Washing Textile Fabrics, patented by Walter Kling and Hermann Lange, Duesseldorf, assignors to Boehme Fettchemie, G.m.b.H., Duesseldorf, Germany. The patent teaches the method of cleansing a soiled synthetic textile fabric, which comprises washing said fabric in a cation-active aqueous solution consisting essentially of water and from about 0.85 to about 1.5 gm./liter of a cation-active washing composition comprising (1) from about 23% to about 44% of an organic onium compound selected from the group consisting of aliphatic ammonium compounds having attached to the nitrogen atom an aliphatic chain having from 6 to 20 carbon radical containing a hydrocarbon atoms, at least two alkyl radicals having from 1 to 2 carbon atoms and a radical selected from the group consisting of ethyl, methyl, benzyl and cyclohexyl, pyridinium compounds having attached to the nitrogen atom an aliphatic radical containing a hydrocarbon chain having from 6 to 20 carbon atoms and quinolinium compounds having attached to the nitrogen atom an aliphatic radical containing a hydrocarbon chain having from 6 to 20 carbon atoms, (2) from about 33% to about 77% of a lower alkanoic acid and (3) from about 0% to about 33% of an additive stable in said cationic active aqueous solution selected from the group consisting of aluminum salts of lower alkanoic acids, lower alkoxy celluloses, chito seamine and polyalkylene oxide waxes, whereby both the fabric and the soil are imparted with a positive electrostatic charge and the soil is separated from the fabric by electrostatic repulsion and dispersed throughout the washing solution.

Food Additives Guide

"How to Proceed Under the Food Additives Amendment" is the title of a 12 page booklet just published by the Manufacturing Chemists' Association, 1825 Connecticut Avenue, N.W., Washington 9, D. C. Intended as a manufacturer's guide to legal and technical considerations presented by the Food Additives Amendment of 1958, it is the first published section of a seven-part manual on food additives.

The MCA booklet tells in detail how to comply with the law. In question and answer form it shows how to determine whether a substance should be classified as a food additive. Other sections describe procedures for filing petitions for approval, for filing objections to regulations and for filing petitions for the U. S. Circuit Court of Appeals.

Copies of the guide are available from MCA at 50 cents each.

Coconut Acids Data

Coconut fatty acids, their composition, properties and uses, are described in an eight-page illustrated folder just published by Armour Industrial Chemical Co., Chicago 6. Covered are caprylic, capric, lauric, and myristic acids, stripped and distilled coco acids and a capric-myristic blend. Armour markets these compounds under the trade name "Neo-Fat."

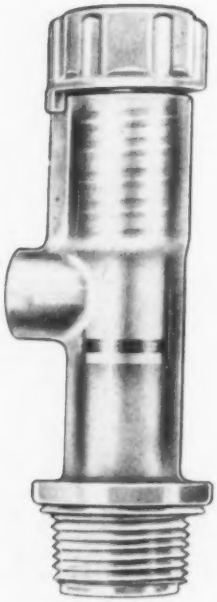
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New Polyethylene Faucet

Rieke Metal Products Corp. Auburn, Ind., introduced recently a new concept in design of drum faucets.

The new faucet is said to be free of all design stresses. A sealing bead on the shoulder of the faucet allows orientation in any position on any style drum closure, and effects a positive seal at all times. It possesses a longer dispensing throat for easier filling of small vessels.

It is molded with a uniform cross section, from virgin polyethylene and approved as being stress crack resistant. The stem and body threads possess a large pitch which permits fast opening and closing of the faucet.





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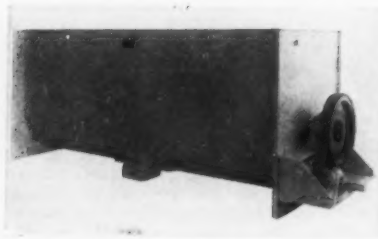
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"Tergitol" nonionic TP-9, a nonyl phenyl polyethylene glycol ether containing nine moles of ethylene oxide is the surface active agent in four suggested formulations for all purpose liquid detergents developed by Union Carbide Chemicals Co., New York. "Tergitol" is a Carbide trade name. Suggestions include high solvent, medium solvent, two low solvent types.

The high solvent type is best used at full strength for removing paint and grease and for general spot removal. Low solvent types are intended for application in dilute aqueous solution for hard surface cleaning, such as washing appliances, walls, etc.

Listed ingredients can be added simultaneously and stirred until a clear liquid results, according to Carbide's suggestions.

	High solvent	*Medium solvent*	*Low solvent*	
"Tergitol" nonionic TP-9	2	10	7	10
Pine oil	25	10	1	—
Potassium hydroxide	2	2	0.8	—
Tall oil	9	6	4	—
Hexylene glycol	10	10	2	5
Water	46	61	82.7	77
Inorganic builders	1	1	—	—
Kerosene, deodorized	5	—	—	—
Lauryl diethanolamide	—	—	2.5	8

Floor Polish Formula

A floor polish of desirable characteristics is said to result from the formulations shown below.

To prepare A, melt "Epolene E" and emulsifiers together without exceeding temperatures of 239-248°F. To this mixture add the 50% KOH solution slowly to prevent excessive foaming. Stir until foam disappears.

This mixture is then added slowly with moderate agitation to water which has been preheated to 203°F. The emulsion formed is stirred continuously until its temperature drops to 170°F.

B, the "Rhoplex B-74" resin solution, is 38 per cent active as marketed. It is dilutable with water to the required 12 per cent solids.

C, "Shanco Resin L-1135" solution:

	% by weight
"Shanco Resin L-1135"	12.0
NH_4OH (28% solution)	2.2
Water	85.8

To the water at 155-165°F. add half the ammonium hydroxide followed by all of the resin with rapid stirring. Add remainder of the ammonium hydroxide solution and with continued stirring raise temperature to 200°F. If mixture is cloudy add more ammonium hydroxide until clarity is obtained. At that point cool this 12 per cent resin solids solution and filter.

To prepare the final floor polish formulation, mix together A, B and C with moderate agitation.

A. Polyethylene emulsion

	% by weight
"Epolene E" (Eastman Chemical Products, Inc.	4.7
"Brij 30" (ethoxylated lauryl ether, Atlas Powder)	1.3
"Span" 85 (sorbitan trioleate, Atlas Powder)	0.1
KOH (50%)	0.1
Water	17.6
B.	
"Rhoplex B-74," 12% solution (resin, Rohm & Haas Co.)	33.1
C.	
"Shanco Resin L-1135," 12% solution, (Shanco Plastics & Chemicals, Inc.)	43.1
	100.0%

Aerosol Shampoo

A liquid cream shampoo suitable for pressure packaging is suggested in data published recently by R. T. Vanderbilt Co., 230 Park Avenue, New York 17.

	% by wt.
A	
"Veegum" inorganic hydrophilic colloid (Vanderbilt)	1
Water	64
B	
"Duponol" WAQ fatty alcohol sulfate (du Pont)	30
C	
Diglycol stearate S	2
Cetyl Alcohol	1
Lecithin	2
Preservative	q.s.

Procedure: I. Add "Veegum" to water slowly, agitating continually until smooth. II. Add B and heat to 65-70°C. and add to I. Mix until cool.

A stable liquid cream shampoo is said to result which is especially attractive when dispensed as an aerosol foam. Vanderbilt suggests loading 100 grams of the above concentrate with 10 grams of a 60/40 mixture of "Freon" 12/114 (du Pont) in a Crown can with a Precision valve.

—★—

Iodine Disinfectant

Iodine, complex bound to nonionic surface active agents, preferably polyglycol ethers, is the active principle of a powdered disinfectant. The powder is said to be readily soluble in water without being hygroscopic. On dilution a strongly acid solution is formed, claimed to exhibit good bactericidal effect. British patent 836,868, 1960, Aktiebolaget Ewos, Sodertalje, Sweden.

—★—

Neutralizing Detergents

Strongly acidic impurities may be present in sodium or potassium fatty-acyl-isethionates. These may be neutralized by a new process calling for treatment of the impure material with a soap. British patent 843,593, 1960, Unilever.



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To get the optimum degree of polishing and rapid cleaning action so vital in automobile, silver and other metal polishes, manufacturers throughout the country select Celite® diatomite polish grades.

Because of its thin-walled particle structure, Celite collapses under pressure. This, plus the fact that it is free of foreign matter, eliminates undesirable scratching. In liquid polishes, Celite's unique structure provides the highest suspension characteristics, thereby eliminating hard settling. What's more, Celite leaves a fine coating that is quickly and easily removed by gentle wiping.

Celite is available in three different grades offering you the exact degree of abrasiveness desired. Whether you choose Super Floss, Celite 315 or Snow Floss, you're assured of a thorough cleaning polish that will provide a brilliant, long-lasting lustre. For further information, write Johns-Manville, Box 14, New York 16, N. Y. In Canada: Port Credit, Ontario. Cable address: Johnmanvil.

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Its uses are not limited to one field, but include soaps and cleaners, paints and varnishes, cutting oils, metal chrome polishes, essential oils, ore flotation, pharmaceuticals and leather processing.

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G.N.S. No. 5	7.76	0.932	1.482	200	212	220	167	Inf.	0.5%

*Basis: Toluene = 105

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Another new development using

B.F.Goodrich Chemical *raw materials*



McNess Waterless Hand Cleaner made with Carbopol 934 by Furst-McNess Company, Freeport, Ill., is being sold to farmers, mechanics, and householders. B.F.Goodrich Chemical Company supplies the Carbopol 934.

New waterless hand cleaner is emulsified with Carbopol 934

This cream-type waterless hand cleaner employs Carbopol 934 water-soluble resin to blend a number of ingredients with water. It will remove grease and grime—even tar or paint—and leave hands feeling soft and smooth. Since this cleaner may be used in areas where temperatures are high—or cold, resistance provided by Carbopol to viscosity changes or emulsion breakdown is important.

The manufacturer cites other advantages of Carbopol too: the excellent suspending and emulsifying properties allow development of a quick breaking emulsion with good stability. Viscosity can be high with low concentration—and there is no rubbery feel. The wide choice of neutralizing agents provides versatility of formulation. Finally, the ease of processing cold simplifies manufacturing problems and increases production.

Here's another way Carbopol 934 is improving a product—or opening new markets. To get more information or samples, write Dept. JD-6, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Carbopol
Water-Soluble Resins

B.F.Goodrich Chemical Company
a division of The B.F.Goodrich Company

B.F.Goodrich GEON vinyls • HYCAR rubber and latex • GOOD-RITE chemicals and plasticizers

News...

PEOPLE · PRODUCTS · PLANTS

Glynn Brock Vice-president

* * *

Wrisley Advances Machamer

* * *

Colgate Research Center

* * *

Soap, Detergent Sales Rise



Ralph A. Schwaikert, executive vice-president, was recently elected president of Bon Ami Co., New York. He succeeds H. Paul Weesner, chairman of the 76-year-old household products firm. Mr. Schwaikert joined Bon Ami in 1954 as plant manager. He was elected to the board in June.



This chick IS OFF BRAND X

The ingredients were wonderful. The package a marvel. But never again. That is usually Miss America's reaction when she has bought a preparation that is not properly scented.

That may be your clue to lagging sales. May we help you? Perry fragrances have helped transform many *acceptable* products into *desirable* products. Perhaps your preparations need the Perry touch. Our modern laboratories and expert perfume chemists are at your service. We welcome the opportunity to submit appropriate samples.

PERRY

FRAGRANCE PERFECTION THROUGH RESEARCH

PERRY BROS., INC.

61-14 32nd Ave., WOODSIDE 77, NEW YORK
RAvenswood 1-3636

"Manufacturing Perfume Chemists"

NEWS

Breck Promotes Glynn

Thomas M. Glynn has been promoted to vice-president of manufacturing for John H. Breck, Inc.,



Thomas M. Glynn

it was recently announced by Edward J. Breck, president of the Springfield, Mass., hair preparations firm.

Formerly manager of the firm's main plant, located in West Springfield, he has been with the Breck organization since 1943. During that time he has had assignments in cost accounting, purchasing, production control and planning and production.

—★—

Lipsit Joins Krystall

Krystall Chemical Co., Chicago, announced recently the appointment of Robert C. Lipsit as chief engineer. Mr. Lipsit was formerly with Pennsalt Chemicals Corp., Wyandotte, Mich.

—★—

Bon Ami Elects Pres.

Ralph A. Schwaikert was elected president of Bon Ami Co., New York, it was announced recently by R. Paul Weesner, chairman of the 76-year old household products firm. *(See cut, page 235.)*

Mr. Schwaikert joined the company in 1954, as plant manager, and was elected a board member in June 1960. He was previously executive vice-president of the company.

—★—

Esso Ups Windisch

Fred B. Windisch, associated with TBA (tires, batteries, and accessories) sales for nearly 25 years, was named assistant manager of the division in Esso Standard's (N. Y.) marketing department, it was announced recently.

Mr. Windisch joined Esso in 1934 and was permanently assigned to the New Jersey division at Elizabeth, in 1938. He moved to the TBA division at Esso headquarters, New York City, in 1948.

—★—

Shulton Advances Brown

Clyde A. Brown, Jr., has been appointed national sales manager of the toiletries division, Shulton, Inc., New York, it was announced recently by Richard N. Parks, vice president–sales.

Prior to joining Shulton, Mr. Brown was a merchandising executive at Young and Rubicam, Inc., New York advertising agency. Before that he was associated with the personal products division of Johnson and Johnson, New York.

In his present capacity he is responsible for all sales to franchised retailers and wholesalers, with headquarters at Clifton, N. J.

Clyde A. Brown, Jr.



Wrisley Appoints Machamer

William O. Machamer has been appointed field supervisor–sales force, of Allen B. Wrisley Co.,



William O. Machamer

Chicago, it was announced recently by Paul W. Skillman, general sales manager.

Mr. Machamer, a graduate of the University of Illinois, has had extensive sales experience in the soap and cosmetic field.

—★—

FTC Cites Mennen

Mennen Co., Morristown, N. J., manufacturer of cosmetics and toilet preparations, was charged recently by the Federal Trade Commission with using deceptive "artifices" in a television commercial supposedly showing the superiority of its "Sof' Stroke" over competing brands of aerosol shaving creams.

The challenged TV demonstration shows a skin diver with a heavy growth of beard jumping into water about 6 to 8 feet deep. He first shows how competing brands will rapidly dissipate in the hand before being applied to the beard. He then discharges Mennen "Sof' Stroke" into his cupped hand, applies it to his face and starts to shave.

The FTC's complaint

In soaps and detergents, the ethanolamides have proved their foam stabilizing and boosting ability. But they do more than discipline suds.

Today, ethanolamides are used as dispersion agents and corrosion inhibitors—permitting packaging of institutional cleaners in mild steel. In addition to controlling lather bubble size in shampoos, they serve as opacifiers and thickeners . . . even give some hair conditioning effect. You'll find them, too, in cosmetics, waxes, and in a variety of textile treating formulations.

Are any of the above among your product line? If so, the information given below should be important to you.

10 TIPS
to help you make
ETHANOLAMIDES

Now, you can make ethanolamides with properties better suited to your end use. Just vary the general procedure—condensing monoethanolamine or diethanolamine with fatty acid by heating for about four hours at 150°-190°C—using the tips below as a guide. You'll find they'll help you produce condensates that are higher in yield and purity . . . and are closer to the exact characteristics you want.

1 Make up only small amounts at first. Experiment and evaluate until you arrive at properties desired. Then try a production batch using the reaction conditions that gave best trial results.

2 Use only highest quality starting materials. ALLIED CHEMICAL ETHANOLAMINES are manufactured by an improved process which assures purity.

3 Use different ratios of ethanolamine to fatty acid to vary properties. A 1:1 mol ratio produces the simple amides. Reacting more than one mol of fatty acid results in a mixture of amides, ester amines, ester amides and soap; the 2:1 mol ratio products are more widely used because of better solubility characteristics.

4 Ask your supplier for the molecular weight, saponification value, for each shipment of fatty acid. Allied Chemical supplies the equivalent weight for each shipment of ethanolamine. With the figures right there, you can calculate the charge quickly and accurately.

5 Start with *di*ethanolamine if water solubility is important. The monoethanolamides are better foam stabilizers, but are less soluble.

6 Keep the temperature down if you substitute fatty oils (glycerides) for the acids since the higher temperature will distill off glycerine. To prevent localized overheating, use steam in preference to a gas flame as the heat source.

7 Use the methyl esters of the fatty acids when you can. You'll get purer condensates.

8 Make provision for good agitation and constant water removal during heating period.

9 Remove different amounts of water to vary properties; your own application will determine optimum amounts to be removed.

10 Change reaction temperature to vary properties. For satisfactory reaction, 170°C is the maximum and about 150°C the minimum.

Write or phone for detailed data on ALLIED CHEMICAL ETHANOLAMINES and technical assistance in formulating ethanolamides for your operation.

For specifications and local offices, see our insert in Chemical Materials Catalog, pages 475-482 and in Chemical Week Buyers Guide, pages 37-44.

BASIC TO AMERICA'S PROGRESS

Allied Chemical

NITROGEN DIVISION

Dept. EA 10-27-3, 40 Rector Street, New York 6, N. Y.

2819

charges that the following artifices were employed in the commercial; the purported Mennen "Sof' Stroke" applied to the skin diver's face was actually a mixture of toothpaste and shaving cream, and the diver cupped his hand to a lesser degree in discharging the competing brand.

Consequently, the complaint alleges, this demonstration is not a valid portrayal of the superiority of Mennen "Sof' Stroke," in the presence of moisture, over competing brands of aerosol shaving cream, and also falsely disparages these competitive products.

The company has been granted 30 days in which to file an answer to the complaint.

—★—

Chemway Sales Increase

Chemway Corp., Wayne, N.J., recently reported third quarter (ended Sept. 30) sales of $2,622,280, an increase over the $2,420,328 in sales for 1959. Earnings, however, were approximately 4¢ per share, compared with 17¢ in the 1959 period.

For the first nine months of 1960, sales totalled $6,745,445, with earnings of 12¢. This compares with 1959 sales of $6,805,292 and earnings of 31¢ per share.

Charles T. Silloway, president of the company, said the decline in earnings occurred because expenses, particularly those for promotion, were based upon a sales increase greater than that which actually materialized.

—★—

Yardley Plans Big Ads

Yardley of London, Inc., New York, announced recently, its gift line Christmas advertising will be backed by three consecutive full pages, in four-color, in national magazines. Merchandise featured in the presentation includes Yardley Red Roses, Lavender and men's lines in new holiday gift packaging.

The three-page advertisement is scheduled to appear in the December issues of *McCalls*, *Life*, *Seventeen*, and *Time*.

Commercial Names Skelly

William H. Skelly, Jr., has been named manager of the mid-Atlantic district for the industrial chemicals department, Commercial Solvents Corp., New York, it was announced recently by A. W. Luedeke, manager of the department.



William H. Skelly, Jr.

Mr. Skelly joined CSC in 1954 as a salesman attached to the Cincinnati office. Most recently he has been a salesman in the New York area with the industrial chemicals division.

In his new capacity, he supervises activities of a group of sales representatives in an area which includes all of the Atlantic seaboard states from New Jersey to Florida.

—★—

Cowles Appoints Three

Robert V. Dallas, Stanley Kent and Jay G. Aldridge have joined Cowles Chemical Co., Cleveland, as laundry sales representatives, it was announced recently by W. J. Schleicher, manager, laundry products department.

Dr. Dallas will cover the Houston territory, Mr. Kent will take over portions of Los Angeles, southern California and Nevada, and Mr. Aldridge opens a new territory with headquarters in Roanoke, Va.

—★—

C-P Research Center

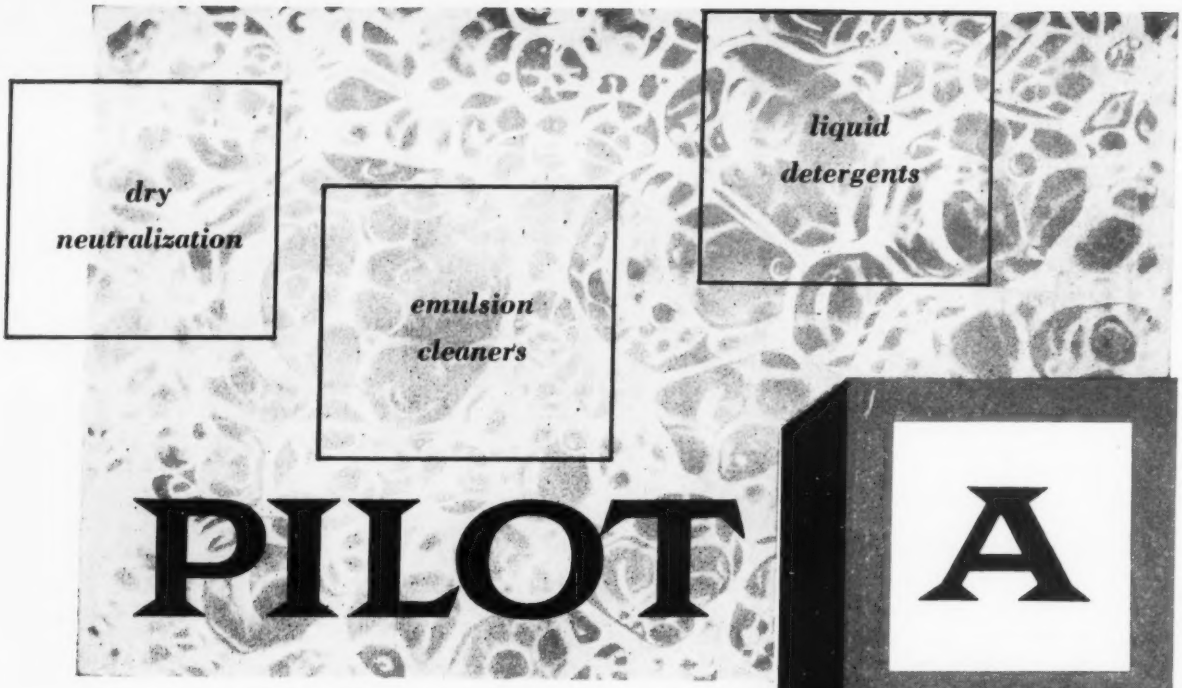
George H. Lesch, president of the Colgate-Palmolive Co., New York, announced recently the start of construction of a multi-million dollar research center, adjacent to the Rutgers University science campus near New Brunswick, N. J.

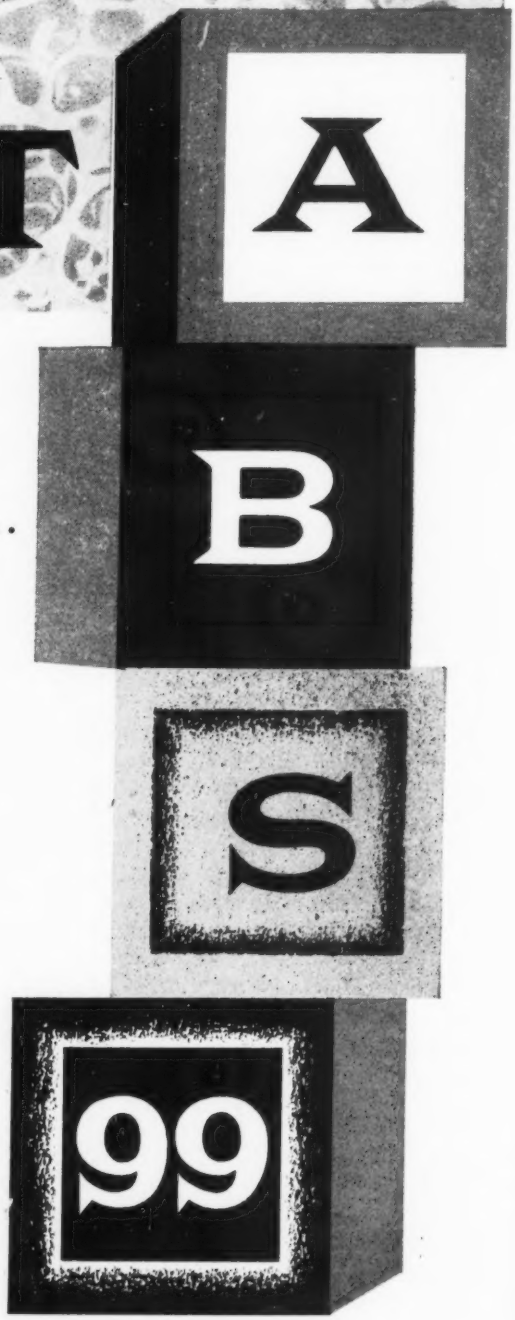
The two story center, with a glass, ceramic and aluminum exterior, will cover more than 200,000 square feet—with provision for future expansion. There will be two main laboratory wings extending to the rear, each 250 feet long; to the front of the building will be three smaller wings occupied by administrative offices, information center, and a dining area. A 20,000 volume library, seminar room accommodating 200 people, and approximately 175 laboratory units are planned.

The installation is being constructed on a 75-acre tract purchased from the university, overlooking the Raritan River and New Brunswick. When completed, in the spring of 1962, the building will house work in such fields as biology, oral health, pharmacology, biochemistry, physiology, enzymology and bacteriology.

Artist's conception of multi-million dollar research center being built by Colgate-Palmolive Co., New York, adjacent to Rutgers science campus, New Brunswick, N. J.







The building block for all sulfonate detergents . . .

Pilot ABS-99, dodecyl benzene sulfonic concentrate, offers amazing flexibility for your detergent formulation: for direct neutralization of carbonate or bicarbonate mixtures to give dry compounds; can be mixed with a variety of bases and solvents for oil or water dispersable products; will form low sulfate liquids and pastes of light color for all-purpose liquid detergents; will form amine sulfonates which are directly soluble in oil, alcohol and non-aqueous media.

ABS-99 is made by Pilot's unique *Cold Processing* and gives 14% more active ingredient than ordinary 88% pure sulfonic concentrates. Detergent products can be made more efficient and manufactured at a lower processing cost by using highly concentrated Pilot ABS-99.

Because of its high purity, ABS-99 *may be kept in plain steel containers!*

Write now for technical information and sample.



PILOT *Chemical Company*
of California

P.O. BOX 22130 • LOS ANGELES 22

Antara Executive Changes

Changes of executive personnel, Antara Chemicals Division, General Aniline & Film Corp.,



James M. Cloney

New York, were announced recently by Dr. C. C. Schulze, general manager.

James M. Cloney has been appointed director of marketing for all sales activities of the division. He was formerly sales manager of Antara Chemicals.

Francis Charles has been appointed director of manufacturing, and Dr. Frederick J. Gajewski named technical director.

Wallace G. Clarke, formerly area supervisor, has been appointed special assistant to the general manager, Dr. Schulze.

—★—

False Advertising Denied

Bissell, Inc., Grand Rapids, Mich., E. R. Wagner Manufacturing Co., Milwaukee, Wis., and its partially-owned subsidiary, Glamur Products, Inc., Syracuse, N. Y., distributors of rug and upholstery shampoos and applicators, denied last month false advertising charges brought against them by the Federal Trade Commission.

The FTC's complaints alleged that the concerns' products neither are as effective as professional rug cleaning nor will clean merely by spreading the shampoo or wiping it on and letting it dry, as advertised. Bissell also was charged with falsely advertising that its product will "(1) remove every kind of stain that professional cleaners can, and (2) give professional-type cleaning at one-tenth the cost."

Asserting that the claims actually made in its advertising are true, each company asks dismissal of the complaint against itself.

Bissell declares it never "intended to advertise any comparisons between rug and carpet cleaning at home with its products and rug or carpet cleaning in professional plants, as distinct from professional cleaning in-the-home; and that if any of respondent's early advertising could have had such meaning read into it, such early and introductory advertising material was, in any event, abandoned almost immediately, with no intention to resume any such aspect of it, and under circumstances from which the Commission should conclude that no such resumption in that respect will ever be made."

Wagner and its subsidiary stress that they have not advertised cleaning is accomplished by "spreading" the shampoo as alleged by the FTC; rather, "apply" or variations of this word are used. The products, they contend, "will clean as has been represented in advertising."

—★—

Dow Opens Center

Dow Chemical Co. recently opened a new agricultural chemical research center at Midland, Mich. In conjunction with the opening ceremonies a symposium on "Research Horizons and Accomplishments," was held, featuring Dow personnel and speakers from public agencies.

The new center houses all activities related to agricultural chemicals research at Midland. The building provides more than 50,000 square feet of laboratory and office space in addition to greenhouses and service buildings. The center is located on a 110-acre farm equipped with field test plots, animal barns and corrals, an orchard, and woody plant nursery.

Dodge Colgate Vice-Pres.

George H. Lesch, president of the Colgate-Palmolive Co., New York, announced the recent elec-



Sherwood Dodge

tion of Sherwood Dodge as vice-president and director of marketing of the toilet articles division.

Mr. Dodge is responsible for the planning and direction of advertising, promotion, merchandising, sales and distribution activities for all Colgate-Palmolive toiletries. He reports directly to C. Guy Grace, vice-president and general manager of the division.

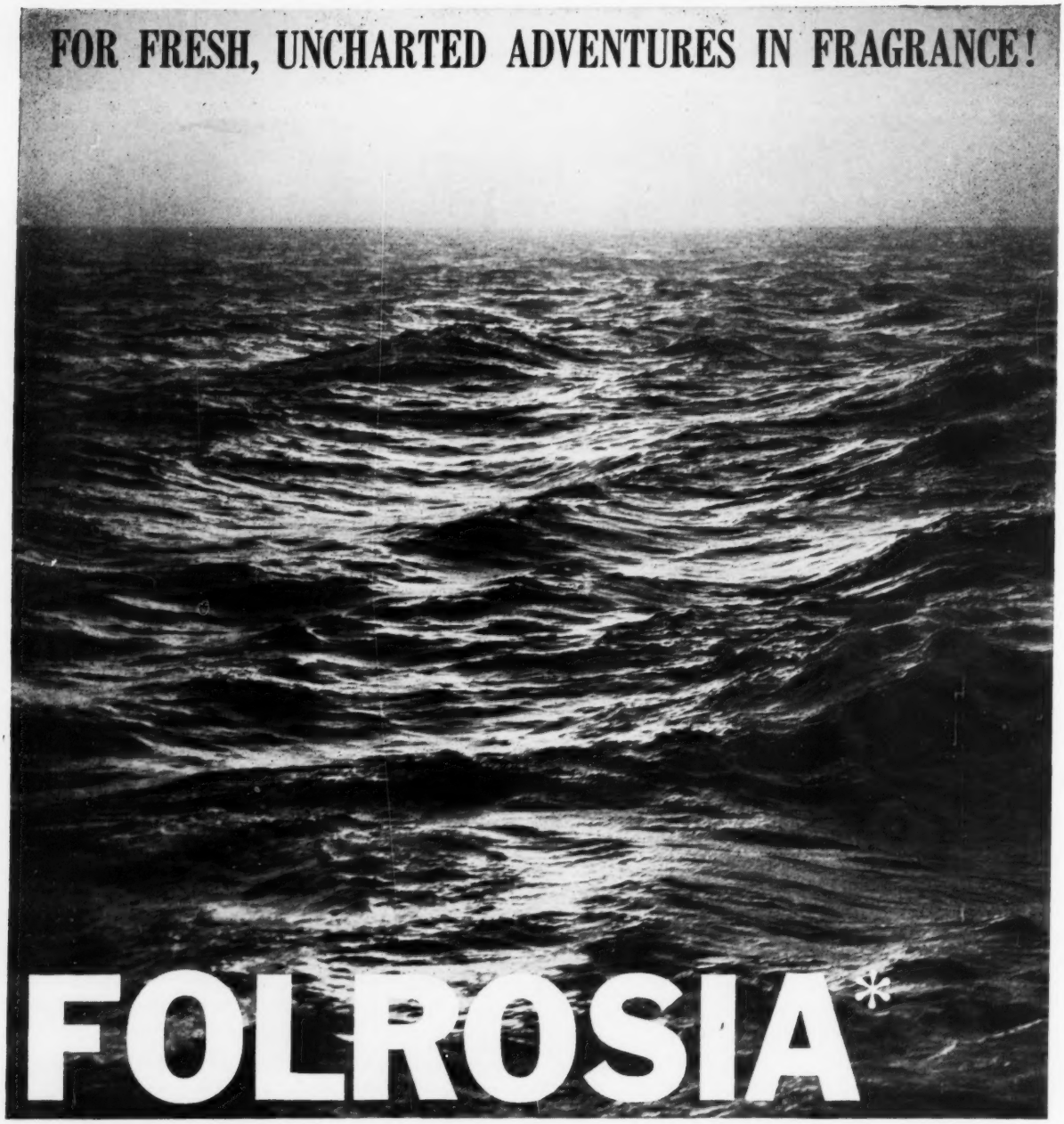
Prior to joining C-P, Mr. Dodge was marketing vice president of Warwick & Legler, Inc., New York advertising agency. He served earlier as executive vice-president of Fletcher D. Richards, Inc., and as national vice-president in charge of marketing for Foote, Cone and Belding, Inc.

—★—

Gillette Reports Earnings

Boone Gross, president of Gillette Co., Boston, announced the company's consolidated net income for the nine months ending Sept. 20, 1960 was $26,695,807, compared with $22,476,774 for the same period in 1959 and $19,730,136 in 1958. Based on the number of shares outstanding at the end of each period, the amount earned per share of common stock was $2.85 for the nine months just ended, compared with $2.42 for the same period in 1959 and $2.13 in 1958.

FOR FRESH, UNCHARTED ADVENTURES IN FRAGRANCE!



...a new, "broad-spectrum" synthetic aromatic with a *deep red rose* character. Use it to create a crisp, natural, leafy rose aura . . . or to lend intensity and personality to subtler blends.

FOLROSIA blossoms with new levels of floral realism! Whether you wish to enhance familiar rose materials, create bold new rose accents of uncommon floralcy and naturalness, or add fresh, lifelike notes to more subtle compositions, FOLROSIA provides a simple, yet unusual answer.

FOLROSIA possesses remarkable tenacity, with a fragrance and nuances reminiscent of fresh green rose foliage. It is extraordinarily stable in soaps, detergents, cosmetic preparations, and its odor effectiveness remains at a high level over extended periods. Write for samples and technical data.

GIVAUDAN

GIVAUDAN-DELAWANNA, INC.
321 West 44th Street
New York 36, N.Y.

*Reg. U.S. Pat. Off.

Wax Firms' TV Use Up

Makers of floor and furniture polishes and waxes are expanding their use of television advertising at a rapid pace, the Television Bureau of Advertising, New York, reported recently.

In the first six months of 1960, network and spot gross time billings were 153% greater than in the like period of 1958. Three companies accounted for more than nine out of ten dollars spent in television advertising in 1958. Today nearly a dozen wax and polish companies are making use of the medium.

In the period from Jan.-June 1960, floor and furniture polishes and waxes had gross time billings on network and spot television of $10,406,922, compared with $4,049-000 in the like period of 1958 and $6,133,000 in 1959.

S. C. Johnson & Son, Inc., Racine, Wis., had gross time billings of $4,751,055 in the first six months of 1960, for polishes and waxes. Simoniz Co., Chicago, which entered the medium in 1959, had spot and network billings of $2,710,759. American Home Products Corp., New York, spent $952,-797 to advertise "Aerowax" on TV.

—★—

Allied Advances Pearson

John H. Pearson has been made director of advance research planning for the General Chemical Division of Allied Chemical Corp., New York, according to an announcement made last month by John C. Fedoruk, technical director.

Dr. Pearson has been with the division for 24 years. He has served in several technical capacities, including assistant technical director, a post he held eight years, and director of laboratory research.

—★—

Joins Lueders 25-year Club

Joseph R. Dominica, a director of the George Lueders & Co., New York, became a member of the Lueders Twenty-Five Year Club at a luncheon held recently in his honor. The members of the club presented him with a watch and a set of matched luggage.

—★—

NAAP Forms Advisory Bd.

National Auto Accessory & Parts Exhibit officials report the formation of a "board of advisors," comprised of leading buyers and manufacturers in the automotive industry.

The function of the board is to assist in the policies and planning for the 1961 exhibit, to be held in Las Vegas, Nevada, July 31 - August 2.

Mike Shapiro, Plasti-Kote, Inc., Cleveland, has been named as a member of the board.

—★—

Grobe News Sales Rep.

J. H. Day Co., division of Cleveland Automatic Machine Co., Cincinnati, announced recently the appointment of William F. Grobe as sales representative serving Michigan, northern Indiana, and Ontario, Canada.

From the Detroit sales office located at 27619 Buckingham Ave., Livonia, Mich., Mr. Globe will represent the company's full line of equipment, which includes mixers, blenders, sifters, roll mills and other types of processing equipment.

Columbia Wax Expands

The addition of three sales representatives and the establishment of a new branch office in Fresno, Calif. by the Columbia Wax Co., Glendale, Calif., was announced recently by H. N. Farthing, general sales manager.

The new representatives are William Johnson, Harold W. Neilly, and Robert O'Sickey. Mr. Johnson services the southwestern Los Angeles area. Before joining Columbia, he represented a maintenance products firm in the Los Angeles area. Mr. Neilly has been assigned to the Long Beach, Calif. area. He was formerly with Bing Crosby Enterprises. Mr. O'Sickey will staff the new Fresno branch, a site for which is now being selected. He has more than 10 years experience in industrial sales in the Los Angeles area.

Columbia also has branches in Oakland, Sacramento, San Jose, and San Diego, Calif. The company recently completed a plant-expansion program to increase production capacity to more than 50,-000 gallons daily. According to Mr. Farthing, general sales manager, Columbia will staff several additional territories in the southern California area in the near future.

John M. Nykiel (right), sales manager of Colgate-Palmolive (N. Y.) Company's associated products division, ("Ajax" cleanser, "Florient" room deodorizer, and "Colgate Bath," "Palmolive" and "Cashmere Bouquet" soaps), receives the Twenty-Fve Year Plaque of the American Hotel Association from Vernon Herndon, retiring president of the A.H.A. Mr. Herndon is also general manager of The Palmer House, Chicago, and vice-president of the Hilton Hotels Corp. The plaque was given to Colgate at the association's recent 50th anniversary meeting in San Juan, Puerto Rico, in recognition of the company's "twenty-five years of service and cooperation as an allied member of the association."





Give her the detergent she wants . . .

Custom-blend with TERGITOL Nonionics

To be certain that the products she buys are *yours*, custom-blend your detergents with TERGITOL nonionics. The product that outcleans and outshines competition is the one she'll favor; and TERGITOL nonionics can give your detergent the properties that fill all her exacting demands.

From CARBIDE you can obtain nonionics with properties ranging from complete oil solubility to complete water solubility. Also, you can obtain information on blending these nonionics to give you the precise properties you want for your specialty products.

Here are two nonionics that should be of particular value to you—

TERGITOL NPX—a nonyl phenyl polyethylene glycol ether containing 10.5 moles of ethylene oxide, is ideal for the base of your all-purpose detergents and wetting agents. Its cloud point is in the 60 to 65°C. range, and it is compatible with soaps and other surfactants. TERGITOL NPX is soluble in many alcohols, ketones, glycols, glycol-ethers, and esters; and its stability is not affected by acids, bases, or salts.

TERGITOL TP-9—with 9 moles of ethylene oxide and a cloud point in the 51 to 56°C. range, is similar to NPX in its usefulness, and is designed for use in water at less than 125°F.

The CARBIDE Technical Representative in your area will be happy to discuss your special requirements with you. Give him a call and see what a customized formula can do for your products. Or write: Union Carbide Chemicals Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, New York.

TERGITOL and UNION CARBIDE are registered trade marks.

UNION CARBIDE CHEMICALS COMPANY

UNION CARBIDE

SOCMA Nominees Report

Col. J. M. Fasoli, nominating committee chairman, Synthetic Organic Chemical Manufacturers Association of the United States, (New York), reported the selection of the following slate of candidates for 1961 officers, and members of the board of governors (class of 1963): president, Carl A. Gerstacker, board chairman, Dow Chemical Co., Midland, Mich.

First vice-president, Chester M. Brown—president, Allied Chemical Corp., New York, second vice-president; Arthur P. Kroeger, asst. gen. mgr., organic chemicals division, Monsanto Chemical Co., St. Louis; treasurer, Robert L. Bateman, manager, marketing services, Union Carbide Chemicals Co., Union Carbide Corp., New York.

Board members, (class of 1963) Louis F. Loutrel, Jr., vice-president, sales, Maumee Chemical Co., Toledo, and Carl S. Oldach asst. gen. mgr., organic chemicals department, E. I. du Pont de Nemours & Co., Wilmington, Del.

Honorary board members (class of 1961): Dr. Elvin H. Killheffer, R.D., Jensen Beach, Florida and Dr. August Merz, American Cyanamid Co., New York.

Candidates will be voted on by the general membership at the annual business meeting of the association to be held December 8, 1960 at the Hotel Roosevelt, New York.

—★—

Calgon Issues Bulletin

A new bulletin describing the features and applications of a new solution feeder has just been issued by Calgon Co., a division of Hagan Chemicals & Controls, Inc., Pittsburgh.

The new feeder is designed for use in home and commercial well water systems, cooling tower systems and swimming pools. It feeds hypochlorite to well water systems and complex phosphate to control corrosion or prevent scale formation and to correct iron water troubles.

The small, heavy duty, 115-volt motor will introduce treatment into any line under suction or up to 100 psi pressure and will operate outdoors in rain or snow.

—★—

Plant Maintenance Show

Chicago will be the location of the 12th annual Plant Maintenance & Engineering Show, it was announced last month. Theme for the 1961 show is "The Maintenance Operation Meets the Need of Increased Production."

The show is scheduled for January 23-26, 1961 at the International Amphitheatre, with the conference running January 23-25. Morning sessions of the conference will be held at the Amphitheatre and evening sessions at the Palmer House. The exhibit area is expected to exceed six acres and about 375 companies are expected to exhibit.

—★—

Winnicki FMC Vice-Pres

Henry S. Winnicki is now vice-president of the chemical divisions of Food Machinery and Chemical Corp., New York, according to a recent announcement. His new responsibilities include three chemical staff departments: central engineering, process development, and patent.

Mr. Winnicki joined FMC in 1941. In 1953 and 1954, he was European technical representative. After that he headed FMC's central chemical development department, and before his present appointment was manager of the chemicals and plastics division.

Henry S. Winnicki



Acme Enlarges Labs

Acme Shellac Products Co., Newark, N.J., recently started expansion of its research and technical service laboratories. Plans call for the addition of library and conference rooms and the doubling of present office space. Completion is slated for late 1961.

—★—

New Anionics from Antara

A new series of anionic surface active agents was anounced in November by Antara Chemicals Division of General Aniline & Film Corp., New York. Heavy duty liquid cleaners, metal cleaning compounds, pesticides, and dry cleaning detergents are among actual and potential applications for these materials which Antara markets as the "Garfac" series.

Four members of the series are commercially available now, two more will be in the near future. All come as 100 per cent free acid or as the sodium salt. "Gafac PE-510" and "Gafac LO-529," sodium salt of the former, are detergent-emulsifiers for use in industrial floor cleaners. Directly soluble in aqueous solutions of polyphosphates, these surfactants are said to impart viscosity and anticorrosion properties to formulations at pH 9.2. They may be shipped in unlined steel drums. They are soluble in perchlorethylene and Stoddard solvent as well as most other organic solvents.

Intended for use by compounders of heavy and light liquid household and industrial cleaners, "Gafac RE-610" is more compatible with strong aqueous solutions of alkaline builders than the above. The material is slightly less soluble in aliphatic solvents than "Gafac PE-510." Both "RE-610" and "PE-510" are said to be dry cleaning detergents of superior detergency and soil antiredeposition characteristics.

"Garfac RM-510" and "RM-710" were designed specifically as pesticide emulsifiers, representing a departure from the commonly used nonionic-anionic blends.

Other members of the series



Because nothing is more important than the purity of your product...

. . . rely on Conoco white oils and petrolatums to meet your most exacting standards. Conoco's full line of white oils encompasses a range in Saybolt viscosity from 500 to 40. Each white oil is carefully controlled in all stages of manufacturing to assure highest quality, purity and consistent uniformity.

Conoco's premium RAMOL® white mineral oils exceed all U.S.P. and N.F. specifications. For the finest in specialty white oils, many formulators insist on Conoco's KREMOL® or STARLIGHT® products.

Conoco SHEROLATUM® petrolatums for the drug and cosmetic industry range in color from the purest white to amber.

Continental skill and quality control result in outstanding quality in all grades. Why not investigate the possibilities of these superior Conoco products in your formulations? We'll be glad to supply you with samples.

Continental Oil Company, Petrochemical Department
3 West Forest Avenue, Englewood, New Jersey, U.S.A., LOwell 8-8200
CHICAGO: PRUDENTIAL PLAZA, WHITEHALL 3-0944
NEW ORLEANS: COMMERCE BLDG., JACKSON 2-0664
EUROPEAN SALES OFFICE: P.O. BOX 1207, ROTTERDAM, THE NETHERLANDS

CONOCO **WHITE OILS AND PETROLATUMS**

have applications in the textile industry, in emulsion polymerization and in other fields.

—★—

Stauffer Ups Three

Three appointments in the industrial chemicals division, Stauffer Chemical Co., New York, were announced recently.

Wyman L. Taylor has been made eastern sales manager of the division. He was formerly administrative assistant to the vice-president, sales, Roger W. Gunder. Prior to that he was western sales manager with headquarters in San Francisco.

Louis Taylor has been appointed manager of the product department. He is responsible for the operation of the product and order departments.

Joseph F. Luther has been appointed national product manager for chlorinated hydrocarbons. With Stauffer since 1946, he served as: plant manager, Niagara Falls; assistant production manager, New York; technical assistant to the vice-president, sales, and eastern sales manager, industrial chemicals division.

—★—

Borax Appoints Miller

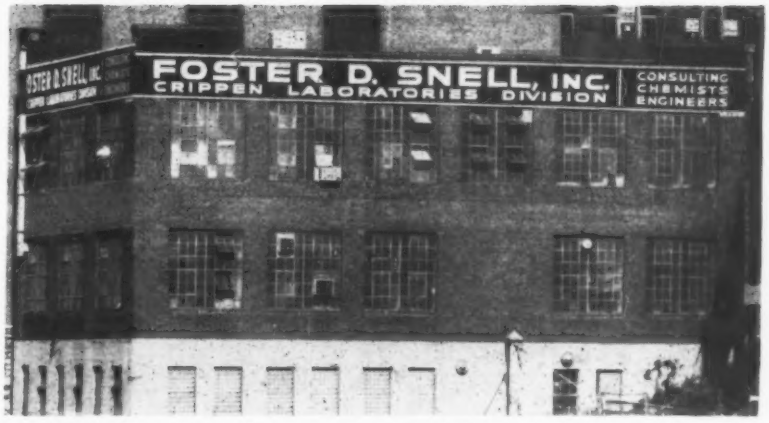
J. R. Miller has been appointed to the newly-created position of management science analyst in the administrative department of United States Borax & Chemical Corp., Burlington, Iowa, it was announced recently by R. F. Steel, vice-president in charge of the department.

Mr. Miller joined the U. S. Borax "20 Mule Team" products department in 1957, and has held the position of technical manager, product development until this appointment.

—★—

Sperling Labs Move

Sperling Laboratories Division of Foster D. Snell, Inc., New York chemical consultants, has moved its facilities from Arlington, Va., to 1500 Guilford Ave., Baltimore. The Sperling division specializes in pharmacology and toxicology, and is actively engaged in toxicological testing for industry and government. A major activity at the present time is work connected with the Food Additives Amendment and the new Hazardous Substances Labeling Law.



New home of Sperling Laboratories Division of Foster D. Snell, Inc., New York, in Baltimore, Md. Sperling was formerly located in Arlington, Va.

The Sperling organization was founded in 1956 by Dr. Frederick Sperling, who was prior to that time, with the National Institutes of Health and the U. S. Department of Agriculture, where he served as head of the USDA pharmacology laboratory in Beltsville, Md. Dr. Sperling is currently associated with Howard University as lecturer-consultant in pharmacology and toxicology.

—★—

ASTM Chairman

Joseph Sinsheimer, vice-president of Fuld Brothers, Inc., Baltimore, recently has been named chairman of subcommittee III of the American Society for Testing Materials' Committee D-21 on Wax Polishes and Related Materials.

He was also selected as chairman of the subcommittee on planning of the Detergent and Cleaning Compounds Division of the Chemical Specialties Manufacturers Assn. upon the resignation of N. W. Berst of Diversey Corp., Chicago.

Mr. Sinsheimer, associated with the ASTM for the past seven years, also becomes a member of its executive committee, as a result of his chairmanship appointment.

He has been with the Fuld Brothers organization for 11 years in production planning, materials procurement, and the general administration of that firm.

—★—

Rhodia to Make Vanillin

Rhodia, Inc., New York, supplier of flavorings, aromatic chemicals and compounds to the soap, perfume and flavor industries, announced recently plans to begin production of high-quality ethyl vanillin by a completely new process.

Ethyl vanillin is a synthetic vanilla flavoring used widely in the food processing industry, which until now has been manufactured in the United States only by Monsanto Chemical Co., St. Louis. Rhodia estimates that more than 400,000 pounds of this flavoring are used each year in this country.

Installation in 1961, of a special facility at its New Brunswick plant for the production of this new flavoring, is a major step in Rhodia's expansion program.

—★—

Davison Names Wilson

Harry H. Wilson has been named product sales supervisor on silicofluorides, it was announced recently by W. R. Grace & Co., Davison Chemical Division, Baltimore. Mr. Wilson, with the company 17 years, is also assistant to David P. Barrett, industrial chemical sales manager.

Davison silicofluorides are used as laundry sours, mothproofing agents, and disinfectants.

WHO
PUT
THAT
ETHYL ALCOHOL
DRUM
THERE?



You put it there, of course. The lady doesn't know it, but the perfume she's applying—like many of the toiletries she uses daily—very likely contains alcohol that bears the U.S.I. label.

You put it there because you know that your reputation is at stake every time a consumer uses a product with your label. And you know, too, that your product's quality is only as good as the raw materials that go into it. So for exacting cosmetic and toiletry formulations, you choose U.S.I. specially denatured or pure ethyl alcohol—the brand hospitals have specified for over half a century.

You put that ethyl alcohol drum there because U.S.I.'s reputation for quality safeguards your own.

Write on your company letterhead for complete information on U.S.I. ethyl alcohol.

U.S.I INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

Onyx Names Hohing

Onyx Chemical Corp., Jersey City, N. J., has appointed Conrad Hohing manager of its Staten Island Plant No. 2, it was announced recently by F. O. Robitschek, president. Mr. Hohing was formerly quality control supervisor.



Conrad Hohing

—★—

Solvay Process Expands

Plans for expansion of its mercury cell chlorine-caustic soda plant in Brunswick, Ga., were announced last month by Solvay Process Division of Allied Chemical Corp., New York.

According to W. H. Brumfield, Solvay's president, the new facilities will increase chlorine-caustic soda production capacity by about 100 tons per day. This marks the second expansion of the plant since it was built in 1956.

Solvay also has chlorine-caustic soda facilities at Syracuse, N.Y.; Baton Rouge, La.; and Moundsville, W. Va.

—★—

Wilson 40 Years With C-P

Raymond L. Wilson, western regional manager of Colgate-Palmolive Co., New York, household products division sales force, marked his fortieth anniversary with the company, Nov. 10.

Mr. Wilson joined Colgate in 1920 as a member of the sales force. He became a supervisor in the Cincinnati district in 1934 and was named district manager of the Detroit sales district in 1940. In 1956, he was appointed head of the western region, one of five household product regions in the country.

—★—

Address AMA Conference

Bert Cremers, president, Wyandotte Chemicals International, Inc. and vice-president and director, Wyandotte Chemicals Corp., Wyandotte, Mich., and John H. Reifel, vice-president, Wyandotte Chemicals International, Inc. and director of the corporation's development and planning division, discussed four major areas of today's marketing function at the Marketing Management Conference's one day meeting at Madison, Wis., Nov. 10. The conference was sponsored by the University of Wisconsin Management Institute.

—★—

Givaudan Builds in Spain

Construction of the Givaudan Iberica S. A. plant, the newest member of the Givaudan international organization, is fast nearing completion. The new factory is being erected at San Celoni, about 35 miles from Barcelona and will be ready for production early in 1961.

The plant will consist of a series of buildings housing administrative offices, laboratories and production facilities, all of modern design.

The first products to be produced will include isolates and derivatives of citronella oils and oil bois de rose; benzyl esters; the nitro musks; phenyl ethyl alcohol; the ionones and the methyl ionones.

Stephan Offers Stock

The Security and Exchange Commission has approved a public stock offering of 600,000 shares of common stock for the Stephan Co., Fort Lauderdale, Fla., manufacturers and distributors of shampoos and after shave preparations.

—★—

New Glyco Distributor

Glyco Chemicals, a division of Chas. L. Huisking & Co., New York, announced recently the appointment of Quad Chemical Corp., 2472 Hunter St., Los Angeles as its west coast distributor. The firm covers Arizona, California, Oregon and Washington.

—★—

Drew Ups Peterson

John Peterson has been named director of sales, mid-west region, industrial products division of E. F. Drew & Co., New York, it was announced recently by H. A. Swanson, vice-president.

—★—

New Thickener by Nopco

Nopco Chemical Co., Newark, N. J., announced recently the availability of an organophilic fatty amine silicate with a porous, finely-divided structure that has a high external and internal surface area.

It possesses excellent gelling power and has the ability to thicken mineral acid solutions. Its thickening property suggests its use in the preparation of paste-type rust removers and descaling agents.

Technical information and samples may be obtained by writing, Development Sales Dept., 60 Park Place.

New essential oil plant of Givaudan Iberica, S.A., nears completion in San Celoni, Spain. Firm is newest unit of international Givaudan organization.





Halt these floor polish problems with Rohm & Haas acrylic emulsions

Are users of your floor polishes complaining of black heel marking, powdering, or scuffing? If you'd like to solve these problems, we would be glad to send samples of our acrylic floor-polish emulsions for your evaluation. In commercial floor polishes, RHOPLEX B-78 and RHOPLEX B-78U have already established a reputation for excellent wear properties plus resistance to heel marking and powdering. RHOPLEX B-83, a recently developed emulsion, promises even superior performance in these areas and offers wider formulating latitude. All three emulsions dry water-clear, and give excellent toughness and outstanding gloss. Rohm & Haas, a producer of acrylic emulsions since 1933, also supplies acrylic latices for terrazzo and tile sealers.

Literature and samples available. Write for samples and technical literature on:

RHOPLEX B-83, RHOPLEX B-78, RHOPLEX B-78U, RHOPLEX B-74 for floor polishes.

RHOPLEX B-85, RHOPLEX B-86, RHOPLEX B-60A for terrazzo and tile sealers.

RHOPLEX *is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.*

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RHOPLEX

Detergent Market Still Growing

COMBINED detergent and soap sales in the first nine months of 1960 show a 3.1 per cent increase in tonnage and value over last year's figure. This increase does not only establish an all time high but actually puts the growth of the market a shade ahead of population growth, which is a fraction below three per cent. Sales of detergents and soaps totalled 3,336,833,000 pounds, valued at $855,736,000, compared with 3,236,700,000 pounds and $830,222,000 reported last year, according to the quarterly sales census, published by the Association of American Soap and Glycerine Producers. The census is based on reports collated by the association from 58 manufacturing member companies.

Share of synthetic detergents in the total combined market amounted to 76.1 per cent, tonnagewise, during the period under review. Detergent sales, both solid and liquid, totalled 2,531,482,000 pounds, valued $613,201,000, up 4.5 per cent in tonnage and 4.6 per cent in value from 2,423,099,000 pounds and $152,316,000 reported for the corresponding period of 1959.

Major growth item on the detergent list continues to be liquid synthetics, up 14.8 per cent in volume and 9.4 per cent in value. Sales of liquids amounted to 484,992,000 pounds valued $166,586,000 compared with 422,400,000 pounds and $152,316,000 in 1959. Major part of this increase represents sales of packaged liquid detergents, which rose 16.4 per cent in tonnage and 10.8 per cent in dollar value. Sales of liquid synthetic shampoos actually dropped 6.7 per cent in quantity and 2.2 per cent in value.

Solid detergents sales totalled 2,046,490,000 pounds, valued at $446,615,000, compared with 2,000,699,000 pounds and $433,755,000 reported for the first nine months of last year.

Sales of soap in the first nine months of 1960 totalled 805,351,000 pounds and $242,535,000 compared with 813,601,000 pounds valued at $244,151,000. These figures represent a drop in quantity of 1.1 per cent and in value of 0.7 per cent. Sales of solid soap accounted for 782,321,000 pounds valued at $237,938,000, a drop of 1.3 per cent from last year's tonnage. Toilet soap bars represented more than half of all the soap sold in the nine months period, namely 439,032,000 pounds, a 2.2 per cent increase over 1959.

The liquid soap market showed an advance of 8.0 per cent in tonnage and 10.3 per cent in dollar value. Liquid soaps sold amounted to 23,120,000 pounds valued $1,597,000 compared with 813,601,000 pounds and $244,151,000 in the comparable period of 1959. Tonnage sales of packaged liquid soap shampoos rose by 23.9 per cent to 456,000 pounds. Shaving cream sales, including brushless and aerosol products, rose 13.6 per cent in quantity, whereas shaving soap sales dropped 12.4 per cent. (*Turn to Page* 253)

Detergent and Soap Sales — First Nine Months of 1960 and 1959

	Thousands of pounds		Thousands of dollars	
	1960	1959	1960	1950
Detergents, solid	2,046,490	2,000,699	446,615	433,755
Detergents, liquid	484,992	422,400	166,586	152,316
Total	2,531,482	2,423,099	613,201	586,071
Detergents, solid, other than shampoo, pkdg.	1,952,255	1,902,065	429,209	415,314
Detergents, solid, other than shampoo, bulk	87,267	90,953	12,967	13,427
Detergents, liquid, other than shampoo, pkgd.	55,522*	47,689*	148,684	134,192
shampoo, bulk	3,878*	3,799*	4,594	4,515
Detergent shampoos, liquid	9,792	10,496	13,308	13,609
Detergent shampoos, solid	6,968	7,681	4,439	5,014
Soaps, other than liquid	782,231	792,201	237,938	239,985
Liquid soaps	23,120	21,400	4,597	4,166
Total	805,351	813,601	242,535	244,151
Bar toilet soaps**	439,032	429,620	159,557	157,633
Laundry bars, white	79,888	83,378	16,961	18,505
Laundry bars, yellow & other than white	38,507	36,965	3,440	3,804
Soap chips & flakes, pkgd.	18,393	20,359	6,163	7,023
Soap chips & flakes, bulk	55,611	57,437	5,348	6,176
Soap, granulated, powdered, sprayed, pkgd.***	79,375	86,188	23,899	26,467
Soap, granulated, powdered, sprayed, bulk***	39,708	46,199	4,441	5,266
Hand pastes & powders, incl. waterless hand cleaners	7,165	6,616	1,474	1,145
Paste & jelly, potash and other	7,063	9,524	912	1,368
Shaving soaps, (stick, powder, cake)	1,566	1,788	1,071	1,128
Shaving cream (tube, jar, aerosols, soapless)	15,278	13,448	14,562	11,325
Soap shampoos, liquid, pkdg.	57*	46*	184	165
Liquid soaps other than pkgd. shampoos	2,833*	2,629*	4,413	4,001
Miscellaneous or other soaps (incl. shampoo, creams, jellies, pastes, powders)	648	679	110	145
Scouring cleansers (not included in totals)	288,865	292,834	39,325	40,831

*Expressed in gallons. **Includes all toilet bars, medicated, synthetic, etc.
***Includes washing powder.

ELTESOL SX

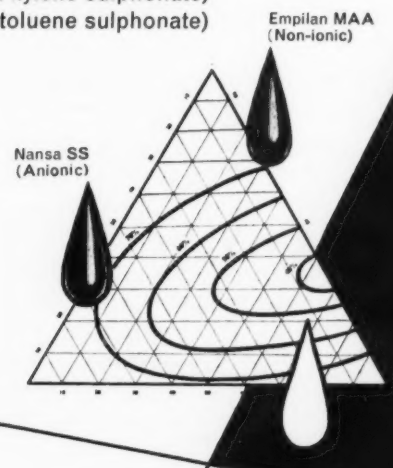
SOLUBILITY PLUS ECONOMY FOR LIQUID DETERGENTS

Eltesol SX is one of a versatile new range of Marchon hydrotropes with a marked effect on the cost and performance of liquid detergents. It increases solubility of anionic active matter and complex phosphates, depresses cloud-points and allows close adjustment of viscosity . . . in a wide variety of heavy and light duty formulations.

Fully compatible with liquid detergent anionics and non-ionics (e.g. Nansa SS and Empilan MAA), the Eltesols are also invaluable as crisping agents for heavy-duty powders. Please write for technical leaflet.

ELTESOL RANGE (AVAILABLE AS LIQUID OR FLAKE)

ELTESOL SX—	(sodium xylene sulphonate)
ELTESOL ST—	(sodium toluene sulphonate)
ELTESOL PX—	(potassium xylene sulphonate)
ELTESOL PT—	(potassium toluene sulphonate)



Marchon

Marchon Products Limited, Whitehaven, England.

Member of the Albright & Wilson Group of Companies.

U.S. AGENTS: Aceto Chemical Co. Inc., 40-40 Lawrence Street, Flushing 54, New York. Telephone: INdependence 1-4100.
CANADIAN AGENTS: Tennant & Michaud Co. Ltd., Suite 905, 321 Bloor Street East, Toronto and 4795 St. Catherine Street West, Westmount, Montreal 6.

MAR 1135

Scouring cleansers continue to show a slight downward trend, showing a 1.2 per cent drop in tonnage and 3.7 per cent decrease in dollar value. The market amounted to 288,865,000 pounds valued at $39,325,000 in the first nine months of this year. This compares with 292,834,000 pounds and $40,831,000 in the corresponding period of 1959.

—★—

Dow Cuts Defoamer Price

Dow Corning Corp., Midland, Mich., recently announced major reductions of four to seven per cent in the price of silicone defoamers. The new prices for antifoaming compounds and emulsions provide savings of up to twenty cents a pound.

D. M. Francisco, manager of defoamer sales, stated that increased demand over the years has enabled Dow to employ lower cost production techniques—resulting in production savings that helped bring the price down.

—★—

Hooker Appoints Three

J. Howard Brown, Robert F. Schultz, and Alvin F. Shepard were named to new posts in a realignment of the research and development department of Hooker Chemical Corp., Niagara Falls, N. Y., it was announced recently by Dr. Chris A. Stiegman, newly elected vice-president—research and development.

Dr. Brown has been appointed manager—research; Mr. Schultz, manager—process development; Dr. Shepard, senior scientist—all reporting to Dr. Stiegman. They had been, respectively, manager—chemical research,production manager—Eastern Chemical division, and manager—plastics research.

—★—

New Emery Price List

Emery Industries, Inc., Cincinnati, recently issued a new price list for its technical grade oleic acids, stearic and palmitic acids, hydrogenated fatty acids and glycerides, and special fatty acids.

Amic Elected President

Louis Amic has been elected president and chief executive officer of Roure-Bertrand Fils et Just-



Louis Amic

in Dupont of France, parent firm of Roure-Dupont, Inc., N. Y., it was announced recently. He fills a vacancy caused by the death of Jean Fabre.

Mr. Amic has been with the firm almost 40 years, and most recently was managing director. He makes his headquarters in France.

—★—

Brillo Reports Earnings

Brillo Manufacturing Co., Brooklyn, reported a decline in its nine months' net income, to $735,565, as compared with $996,202 in the period ended Sept. 30, 1959. Earnings per share were $1.70, as compared with $2.30 in the same period in 1959.

—★—

'Science in Advertising'

"The Role of Science in Advertising" was the subject of a symposium presented the evening of October 25 by the Association of Consulting Chemists and Chemical Engineers, Inc., at the Hotel Shelburne in New York. How laboratory tests and other scientific counsel are used in stressing advertising, scientific, and public interests, as well as the effect of regulatory efforts were discussed.

Among the participants were Earl W. Kintner, chairman, Federal Trade Commission, and Kenneth B. Wilson, president, National Better Business Bureau. Erwin Di Cyan, past president of the Association, was moderator of the discussion. The subject "The Role of Science in Advertising," replaced the previously announced "Consultants Outside U. S. A."

—★—

Jefferson Appoints Boyce

R. V. Boyce has been appointed district sales manager in charge of the newly created west coast sales district of Jefferson Chemical Co., Houston, it was announced recently by R. E. Werley, Jr., sales manager. The new sales area includes Washington, Oregon, California, Arizona, Utah, Nevada and Idaho.

Mr. Boyce joined Jefferson Chemical in 1954, as a salesman in the New England area, a position he held prior to his most recent appointment. Previously he was associated with Dow Corning Corp., Midland, Mich.

—★—

Snell Offers Booklet

Foster D. Snell, Inc., New York, 40-year-old firm of chemical consultants, has issued a new booklet entitled "The Polymer Consultant," dealing with the consultant's role in the development and testing of rubbers and plastics, for both manufacturers and users of polymeric materials.

The economics of rental of staff and facilities for polymer research are discussed. Other subjects treated are polymer evaluation, trouble shooting in process plants and in the field, and the development of new polymeric products.

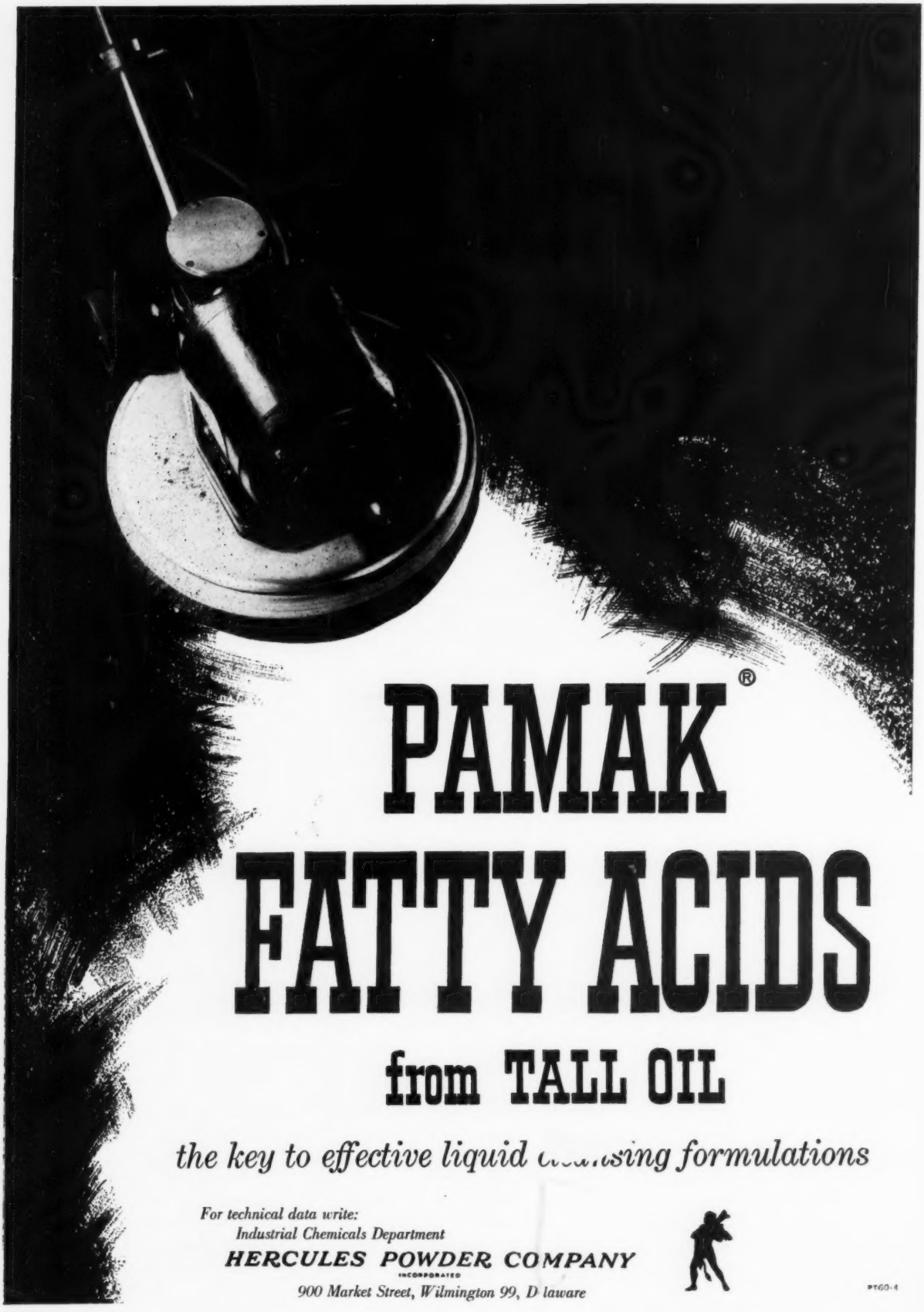
Copies of the booklet are available from Client Relations Department, Foster D. Snell, Inc., 29 West 15th Street, New York 11, N. Y.

—★—

Gluck Heyden Newport V-P

Michael J. Gluck has been appointed vice-president and general manager of Heyden Newport Chemical Corp., New York.

A chemical engineer, Mr. Gluck has been director of overseas operations for the firm's Nuodex Products division since 1956.



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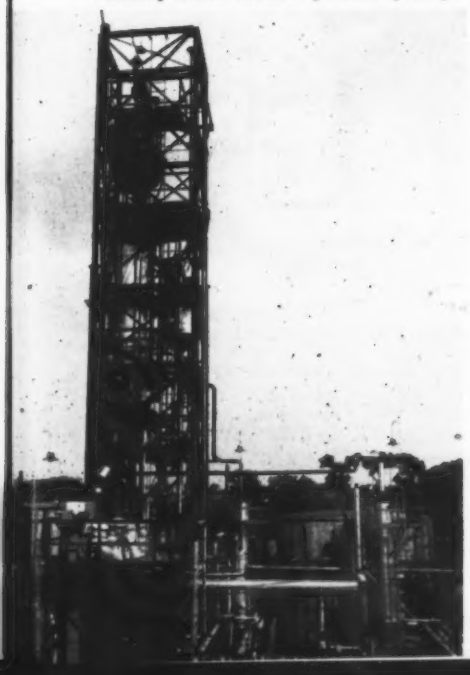
Improved Wax from New Warwick Process

COMMERCIAL production of a new, pure white, high melting microcrystalline wax that the maker claims is the first such wax product available at "competitive prices," was announced last month by the Warwick Wax Division of Western Petrochemical Corp., New York. The product is the result of a recently completed expansion and modernization program at the company's Chanute, Kans., refinery.

"Mekon White", as the new wax is designated, is the result of novel refining techniques and equipment known as the "Thermofor Continuous Percolation Bleaching Process." This process, said to result in waxes of unvarying purity and brightness, was installed at a cost of $1,300,000. The installation is part of an expansion and modernization program at Western Petrochemical's refinery in Chanute, Kans., according to Maurycy Bloch, Western president.

The expansion program included installation of new propane deasphalting facilities, additional vacuum distillation units, as well as the "Thermofor" continuous bleaching unit. The TCP unit provides for continuous adsorption bleaching of wax products instead of batch bleaching of conventional methods.

Thermofor Continuous Percolation bleaching unit at Western Petrochemical's Chanute, Kan., plant, part of company's $1.3 million expansion and modernization program. Addition of the TCP unit will provide completely white wax products to Western's customers—virtually a new level of product quality.



The following specifications have been listed for "Mekon White":

Melting point A.S.T.M. D-127-30	195-200
Penetration 100 g/77 5 sec	3 - 5
Color	White
NPA	0 - 1
Acid number	Nil
Saponification value	Nil
Odor	Nil
Taste	Bland
Viscosity — S.U. @ 210°F	84
Flash (COC) ° F	595
Specific gravity @ 60/60°F	0.944
Specific gravity @ 212/77°F	0.791

—★—

Hedenburg Leaves Mellon

Dr. Oscar F. Hedenburg recently announced his resignation from the Rex Research Corp. (Toledo, O.) Fellowship at Mellon Institute after 43 years of research on insecticides. Dr. Hedenburg has gone into consulting work with Emerson Venable, a chemical engineering consultant for the past nine years. The firm will be known as Hedenburg and Venable and wil make its headquarters at 6111 Fifth Ave., Pittsburgh 332, Pa.

Dr. Hedenburg is the discoverer of piperonyl cyclonene and piperonyl butoxide insecticide synergists Work on these two compounds dates back to 1921 when Dr. Hedenburg suggested to Rex Research Corp. that a petroleum distillate extract of pyrethrum, deodorized with safrole, be marketed as a space spray and called "Fly-Tox". It was observed that the value of the spray was improved somewhat by safrole. The reason for this use was later found to be to small amounts of polymerized safrole present in the commercial safrole.

The Rex Research fellowship was founded in 1917 by F. O. Moburg, Rex president. After his death in 1936, H. W. Moburg became president of Rex Research.



Dr. O. F. Hedenburg

Piperonyl cyclonene was discovered in 1943 and piperonyl butoxide in 1945. The latter material and many compositions with pyrethrins are now being manufactured by Fairchild Chemicals Division of Food Machinery & Chemical Corp., New York.

—★—

Scheuermann Heads Plant

E. J. Scheuermann was named recently as plant manager for the New Orleans unit of U. S. Industrial Chemicals Co., division of National Distillers and Chemical Corp., New York. Mr. Scheuermann succeeds Harvey F. McLaughlin, who has retired.

Metal Cleaners

(*From Page* 64)

making alkalilne cleaners are available in the technical and patent literature as well as in the publications of raw material suppliers. Nevertheless, it must be emphasized that they do not necessarily represent formulations in current use by major manufacturers. The formulas given below should be regarded as typical of materials designed for certain uses rather than as actual proprietary formulations.

Heavy Duty Alkaline Soak Tank Cleaner for Steel

	Percent
Sodium hydroxide (caustic soda)	35
Sodium carbonate (soda ash)	18
Sodium silicate (pentahydrate)	35
*Rosin soap	10

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sc aromatic solvents

You move a significant step ahead of competition with high solvency SC Aromatic Solvents. Among many desirable properties, they offer a wide variation in dry times and solvencies which give them unusual versatility in your formulations. Uniformity from initial test to production is absolutely assured because SC Aromatic Solvents always start with the identical crude. Each run is carefully inspected through numerous quality-control check points until final delivery to your plant. Call today for specific recommendations—SC Aromatic Solvents are available for immediate delivery from 21 Solvents and Chemicals Group plants and stock points in quantities to meet all your requirements.

properties of SC aromatic solvents

PRODUCT	Initial °F.	Dry °F.	Dry °C.	Flash Point °F. (Closed Cup)	Speed Evap. Min.	Kauri Butanol Value	Aniline Point °F.	Specific Gravity @ 60°F.	Lbs. Per Gal. @ 60°F.	Aromatic Equivalent Content
SC Solvent #1	211	240	116	30	2.5	86.4	+ 1	.8259	6.88	74%
SC Solvent #1-A	202	235	113	25	2.5	67	+48	.8003	6.66	52%
SC Solvent #2	270	308	153	81	14.0	80	— 2	.8418	7.01	76%
SC Solvent #2-B	277	370	188	81	21.5	75	+12	.8388	6.99	68%
SC Solvent #3	356	400	204	135	64.0	72	+24	.872	7.26	69%
SC Solvent #28	329	379	193	122	51.0	73	+14	.8597	7.16	74%
SC Solvent #100	321	351	177	115	21.0	93.2	—37	.8708	7.25	96%
SC Solvent #150	369	412*	211*	152	98.0	91.8	—26	.8899	7.41	96%
SC Solvent #450	450	588*	309*	212	750	73	+10	.9279	7.73	

*End Point

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LaCrosse, 2-3011 • Louisville, EMerson 8-5828 • Milwaukee, GReenfield 6-2630 • New Orleans, VErnon 3-4666
Rochester, LOcust 2-5980 • St. Louis, GArfield 1-3495 • Santa Fe Springs (Los Angeles), UNiversity 4-7711 or SPruce 3-3628
Toledo, JEfferson 6-3771 • Windsor, Ontario, CLearwater 2-0933

#Dodecyl benzene sulfonate	2
Use concentrations	4-12 oz/gal.
Operating temperatures	160-212 F.

*Dresinate XX (Hercules) or equivalent.
#Nacconol, Ultrawet, Oronite or equivalent alkyl aryl.

Alkaline Soak Tank Cleaner for Brass (1)

	Percent
Trisodium phosphate	50
Sodium metasilicate (pentahydrate)	30
Sodium carbonate (soda ash)	13
Wetting agent (unspecified)	7
Use concentration	4-12 oz/gal.
Temperature	175-200 F.

Alkaline Soak Tank Cleaner for Aluminum (15)

	Percent
Sodium metasilicate (anhydrous)	45
Sodium tripolyphosphate	30
Sodium bicarbonate	21
Sodium alkyl aryl sulfonate	3
Nonionic high in ethylene oxide	1
Use concentration	4 oz/gal.
Operating temperature	160 F.

The special requirements for electrocleaners are (a) that they give highly conductive solutions, (b) that they form a fine, rapidly breaking foam which prevents alkali misting without danger of explosion, (c) that they do not contain soaps or wetting agents which decompose under the action of heat or electrolysis.

Electrocleaner for Steel (15)

	Percent
Sodium hydroxide, ground	55
Dense soda ash	8.5
Sodium tripolyphosphate	10
Sodium metasilicate, anhydrous	25
Sodium alkyl aryl sulfonate	1
Nonionic high in ethylene oxide	0.5
Use concentration	8 oz/gal.
Operating temperature	180 F.

Alkaline cleaners for spray machine application do not differ greatly in their composition from those for soak tank use, except that they incorporate a low foaming surfactant. These products must be used at much lower concentrations (0.5%-2%). Since the cleaner is sprayed under pressures of 20-100 pounds per square inch, foam would soon fill the entire machine if conventional formulations were used.

Alkaline Spray Cleaner for Steel (15)

	Percent
Sodium hydroxide	20
Sodium carbonate, dense	29
Sodium tripolyphosphate	20
Sodium metasilicate, anhydrous	30
Nonionic surfactant high in ethylene oxide	1
Use concentration	1 oz/gal.
Operating temperature	170 F.

(To be continued)

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New Aerosol Lab

(*From Page* 209)

He stated "industry welcomes Rutgers to the team for development and research of aerosol products. Scientific research work at university level has long been needed in this industry."

A question and answer period followed, moderated by Anthony Iannacone. The speakers were allowed to expand their remarks and any points the audience felt needed clarification.

Following the symposium, Dean Bowers invited the group to inspect the new aerosol research laboratory.

Custom Loading

(*From Page* 223)

eration. If multiple shift and overtime work is considered this percentage drops sharply.

Assuming no new production capacity was to be added (other than for repair or to handle new formulations), there is sufficient capacity to handle the anticipated volume five to ten years hence. (This does not include a surge of pressurized food business.) Does this estimate mean that we are pessimistic about the growth of aerosols? Far from it, but it points out that there is too much capacity available. The equipment manufacturers have done a good selling job. It is true that some fillers are busier than others, but is not this true in any type of business.

In the United States the fillers have tended to specialize. Some concentrate on paints, others on hair sprays, cosmetics, or pharmaceuticals. There are very few fillers who are equipped to handle the entire line of aerosol products.

Contract packagers are sometimes their own worst enemies. By even hinting at the reliability of one of their competitors in talking to a prospect, they tend to cast a shadow on the entire group. The following quotation seems highly applicable – the situation very adept—it is entitled "Competition."

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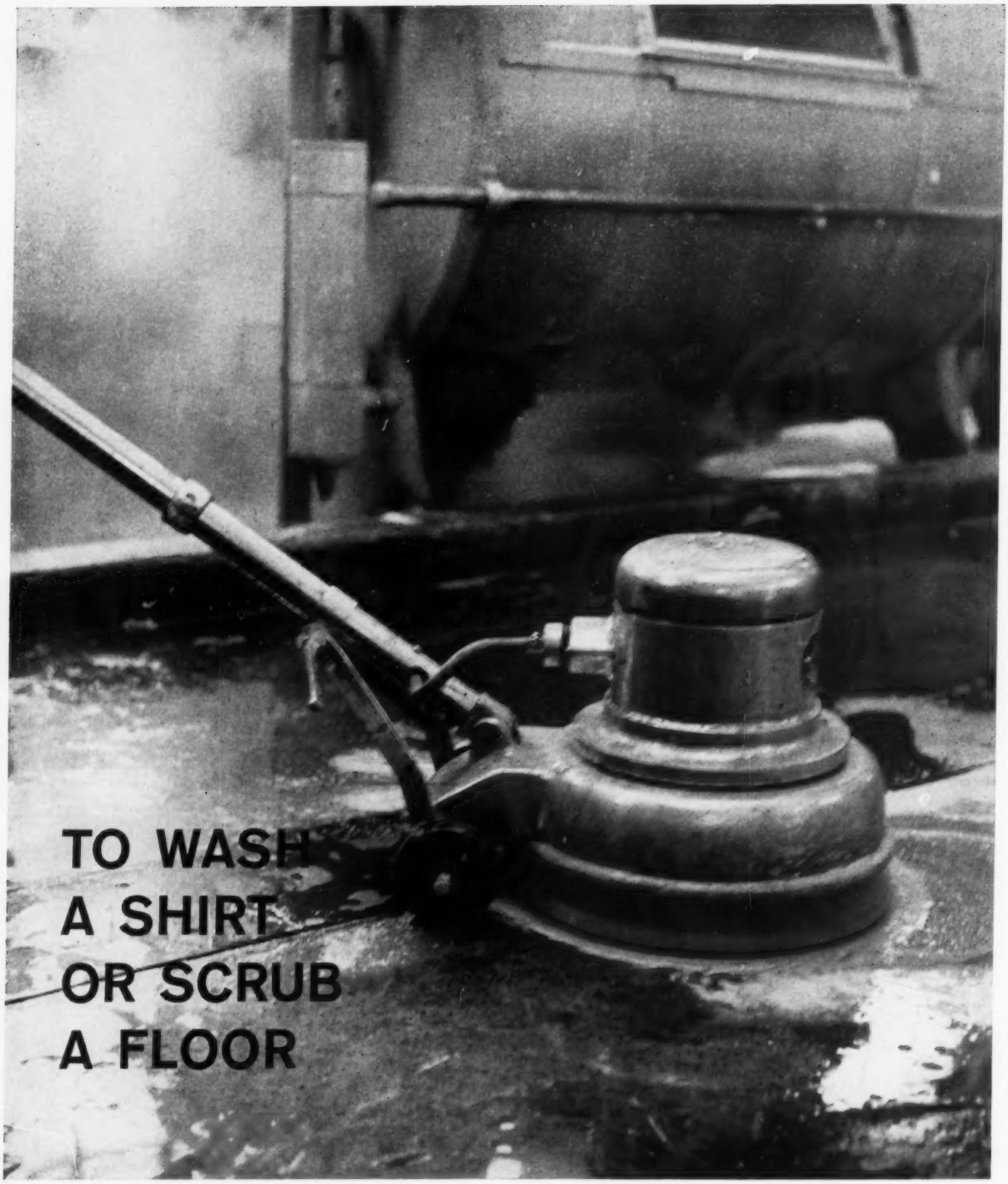


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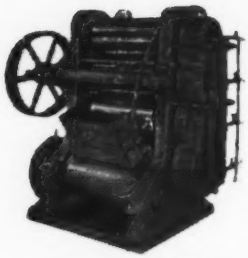
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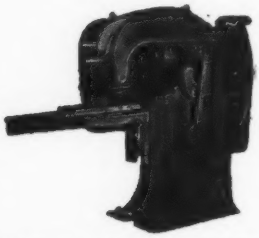
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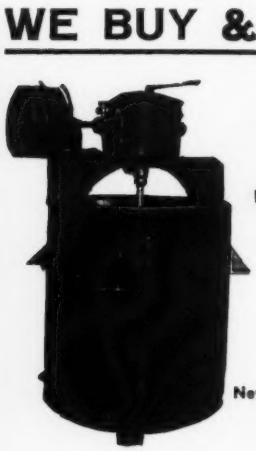


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(*Turn to Page* 267)

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Statement required by the Act of August 24, 1912, as amended by the acts of March 3, 1933, July 2, 1946 and June 11, 1960 (74 Stat. 208) Showing the ownership, management, and circulation of SOAP and CHEMICAL SPECIALTIES, published monthly, at New York, N. Y. for October 1, 1960.

1. The names and addresses of the publisher, editor, and business managers are:

Publisher, MacNair-Dorland Company, Inc., 254 W. 31 St., New York 1, N. Y.; Editor, Frank J. Reilly, 254 W. 31 St., New York N. Y.; Managing editor, none; Business manager, Ira P. MacNair, 254 W. 31 St., New York 1, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

MacNair-Dorland Company, Inc., 254 W. 31 St., New York 1. N. Y.; Ira P. MacNair, 254 W. 31 St., New York 1, N. Y.; Grant A. Dorland, Rosedand Farm, Ocala, Florida.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: none.

4. Paragraphs 2 and 3 include, in cases where the stockholder o security holder appears upon the books of the company as trustee o in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 6,040

Signed—IRA P. MAC NAIR, Business Manager

Sworn to and subscribed before me this 26th day of September, 1960

(Seal) WARREN R. LASCH..

My commission expires March 30, 1961

New Use for Perry Product

Emulsifier "X-390" is now recommended for use as an opacifier in hydrogen peroxide neutralizer solutions, it was announced last month by Perry Bros., Inc., 61-12 32nd Avenue, Woodside 77, N.Y. Previously established applications of the product include cold wave and sodium bromate neutralizer solutions, where it serves as a clouding agent.

Samples and technical data are available from Perry.

—★—

Goby Visits U. S.

Francois Goby, director general of Tombarel Freres, Grasse, France, parent company of Tombarel Products Co., New York essential oil house, completed a lengthy visit to the United States on Nov. 18. He arrived here Oct. 12.

Mr. Goby conferred with Arthur C. Gogarty, president of Tombarel Products, and the U. S. technical staff. He joined Mr. Gogarty in visiting Tombarel's customers in the United States.

Reader Sees It

(*From Page 53*)

descending the western slope, we landed at Coal Harbor, the famous whaling station on the west side of the island.

At Coal Harbor, we went aboard a fast water taxi, loading the cleaning equipment atop the cabin, and cruised down to Port Alice. That would have been a picture. I know of no other sales organization which would, so to speak, "pack in" by water for a sales demonstration.

We remained in Port Alice overnight, at the expense of the school board, whose members appreciated seeing us so much that they insisted on our being their guests. Both high schools, that at Port Hardy, and that of Port Alice, are modern in every respect, and constitute the only sales prospects for our industry in the two vicinities. With the exception of these two towns, most of the remaining settlements are fishing villages, fishing camps, or lumber and mining communities. To arrive or leave, you use a boat or an amphibious airplane.

Upon returning to Port Hardy, we set sail for the northern tip of the island, cruising around Cape Scott, and putting in at Winter Harbor, where I had to fly out with one of the country's famed "Bush Pilots," who flew completely by ear. The crew continued down the western coast, stopping off at Ceepeecee, Hot Springs on Sidney Inlet, Friendly Cover, Nootka Sound, Cable Station at Banfield, and various other interesting places on the way back to home port, Victoria.

Along with the Dightons, who are experienced sailors in these waters, were J. H. Nunn of Sidney, and Bob Hawthorne of Ladner. As I flew back to civilization, I thought of the peaceful quiet, the unblemished air, and the natural beauty of the woods, which we found virtually as God had made them. The easy and relaxed ways of my Canadian friends, and the sturdy boat which sailed gracefully past an unending panorama of thrilling scenery proved a priceless tonic for an old enervated Yank away from home. Nothing matches a selling trip on which you can stretch out on the deck of a boat, and watch black bear come down to the shore line to feed on clams, while a gorgeous sunset is slowly transformed into an evening aglow with northern lights. Frankly, a salesman "never had it so good."

Incidentally, you have never, NEVER tasted salmon until you take one out of the ocean, place it right smack into a pan, and sautee it in butter.

Want to join the crew next summer?

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COMING MEETINGS

American Oil Chemists' Society annual meeting, Sheraton-Jefferson Hotel, St. Louis, May 1-3, 1961; fall meeting, Pick-Congress Hotel, Chicago, Oct. 30-Nov. 1, 1961.

Association of American Soap & Glycerine Producers, 34th annual convention, Waldorf-Astoria Hotel, New York, Jan. 25, 26 and 27, 1961.

Chemical Specialties Manufacturers Association, 47th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 5-9; 47th midyear meeting, Drake Hotel, Chicago, May 15-17, 1961.

Drug, Chemical and Allied Trades Association, annual meeting, Pocono Manor Inn, Pocono Manor, Pa., Sept. 14-17, 1961.

Entomological Society of America, Southeastern Branch, 35th annual meeting, Admiral Semmes Hotel, Mobile, Ala., Jan. 23-25, 1961.

Folding Paper Box Assn. of America, annual meeting, Drake Hotel, Chicago, March 20-22.

National Chemical Exposition, Amphitheater, Chicago, Sept. 5-8, 1961.

National Packaging Exposition and Conference, Exposition Center, Chicago, April 10-14, 1961.

National Sanitary Supply Assn., 38th annual convention, Conrad Hilton Hotel, Chicago, April 23-26, 1961.

New York Premium Show and Premium Advertising Conference, New York Coliseum, Sept. 25-28, 1961.

Northwestern Weed Control Conference, 15th annual meeting, Hotel New Yorker, New York, Jan. 4-6, 1961.

Packaging Machinery Manufactures Institute, (PMMI) fourth annual show, Cobo Hall, Detroit, Nov. 7-10, 1961.

Plant Maintenance & Engineering Show, 12th annual, International Amphitheatre, Chicago, Jan. 23-26. Conference, Jan. 23-25, Palmer House and Amphitheatre.

Synthetic Organic Chemical Manufacturers Association, annual meeting and dinner, Roosevelt Hotel, New York, Dec. 8; monthly luncheon meetings, Jan. 10; Feb. 16; March 14.

Toilet Goods Association, 26th annual meeting, Waldorf-Astoria Hotel, New York, May 9-10-11, 1961.

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tale ends

SHADES of the early days of Rotenone! We have word from Dr. Al Weed that he recently stopped off at Charlottesville, Va. to visit Otis Manchester Poole, former head for many years of Derris, Inc., New York, top supplier to the American market of derris and rotenone. "Chester" as Senor Poole is known to his close friends celebrated his 80th birthday last September. Al reports that "Chester" still thoroughly enjoys the evening cocktail hour and insists that it be of a full 60 minutes duration or longer.

* * * * *

Time marches on! The number of old-time members of the Chemical Specialties Mfrs. Assn. who are not attending the annual meeting at Hollywood, Florida, grows larger. Especially, the number of past-presidents who dropped by the wayside this year is larger than ever. But others have swelled the ranks to the point where the attendance runs far above the 1,000 mark. How well we remember the annual meeting in Quebec some 35 years ago with an attendance of 20. Yes, sir, time sure does march on.

* * * * *

Ralph Stevenson who used to be sales manager of Givaudan-Delawanna in N. Y. and who is rather well known in the chemical specialties and cosmetic fields wrote us recently that he had become a great-grandfather twice in the last two months. A real active great-grandfather! Ralph sort of retired to his own business in Detroit a few years back when he left N. Y. The company has been established for many years, R. M. Stevenson Co., 18,228 Mack Ave., Detroit, 36, and had been operated by his son.

* * * * *

Novel occupational hazard: Tippling on the job in, of all places, a shampoo plant. The solution: providing free beer for the workers. It all happened in the plant of Lincoln Hair Products, Ltd., in the Acton suburb of London. The company makes a beer hair shampoo. When prez. Eric Lincoln found out more of the ale was going into his 26 girl employees than in the shampoo, he hit the ceiling. No more beer, said Eric. "Nuts", said the gals, as they went on strike. This delicate problem in employee relations was solved when the boss agreed to keep a barrel of the stuff on tap in the canteen and where each gal could get a half pint free at lunch. Ah, progress.

* * * * *

Aerosols everywhere: While at the print shop to close up this issue of *Soap,* we noticed lots of aerosol cans around the place. How come, we asked our printer. He pointed out that "Econ-O-Mist" of Braco Chemical Co., St. Louis, is used extensively around the shop to form a protective film over open cans of printing ink. Another major use of aerosols in the graphic arts field is the prevention of static electricity.

* * * * *

Via the grapevine, we hear P&G is quietly testing plastic bottles for its "Clorox" bleach-disinfectant.

* * * * *

A new municipal law in London, we learned recently, prevents habitueés of public swimming pools from using these places to get clean. No more soap in public pools, says the new law. The place to bathe is in your own bath tub. No wonder soap sales are having such a tough time.

* * * * *

Birds on the runways of airports are giving the airlines fits. As a result of the crash in Boston recently, the cause of which was laid to great numbers of starlings along runways that were sucked into the airliner, airports have been alerted to find an effective bird repellent. So far, no one seems to have come up with the solution to the problem as yet. When they do, you'll be hearing about it.

* * * * *

Chemical specialties made the news recently when the U. S. Air Force flew 40,000 pounds of disinfectant powder to East Pakistan to be used in preventing outbreaks of typhoid. Pakistan was hit by two hurricanes and tidal waves within three weeks that killed nearly 12,000 people.

* * * * *

The market for pet products is a big one, about 3.5 billion dollars, says the American Pet Products Manufacturers Assn. That figure probably includes the original price of the pets as well as flea powder, shampoos, bird seed, dog food, catnip and the like. There are 33 million cats, 27 million dogs and 24 million birds of all kinds kept by American families, as well as 450 million tropical fish. We wish that half of these families would keep their cats at home nights. Their nocturnal visits are slowly driving our dogs completely nuts.

* * * * *

The day of easy profits enjoyed by many industries became something of a dead duck in 1960. Thus spake, Dr. George C. Smith, chief economist for the F. W. Dodge Corp. before the Drug, Chemical and Allied Trades Assn. in N. Y. recently. We are definitely back in a "buyer's market," said Dr. Smith, and no firm can expect a guaranteed annual market. After pretty soft selling of the past 15 years, keener competition is here to stay for a while. The plush days of the post-war period are over. It looks like Dr. Smith is suggesting that we go back to work.



As part of a recent national campaign to dramatize the need to decrease air pollution in the U.S., Nikki Sekora, "Miss Cleaner Air Week," uses a solution of "Pine-Sol" detergent (made by Dumas Milner Corp., Jackson, Miss.) to scrub down famous statue of Father Duffy in Time Square, N. Y. C. Representing the Pine-Sol Institute, which co-sponsored the project with New York City's Department of Air Pollution Control, the young lady is shown with the Department's Commissioner, Arthur J. Benline, after completing her chores.

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